BUSINESS WEEK

YEAR AGO

WEEK AGO

START OF WAR 1939

Another reconversion problem: A thousand veterans a day report back to their draft boards for help.

USINESS
EEK
NDEX

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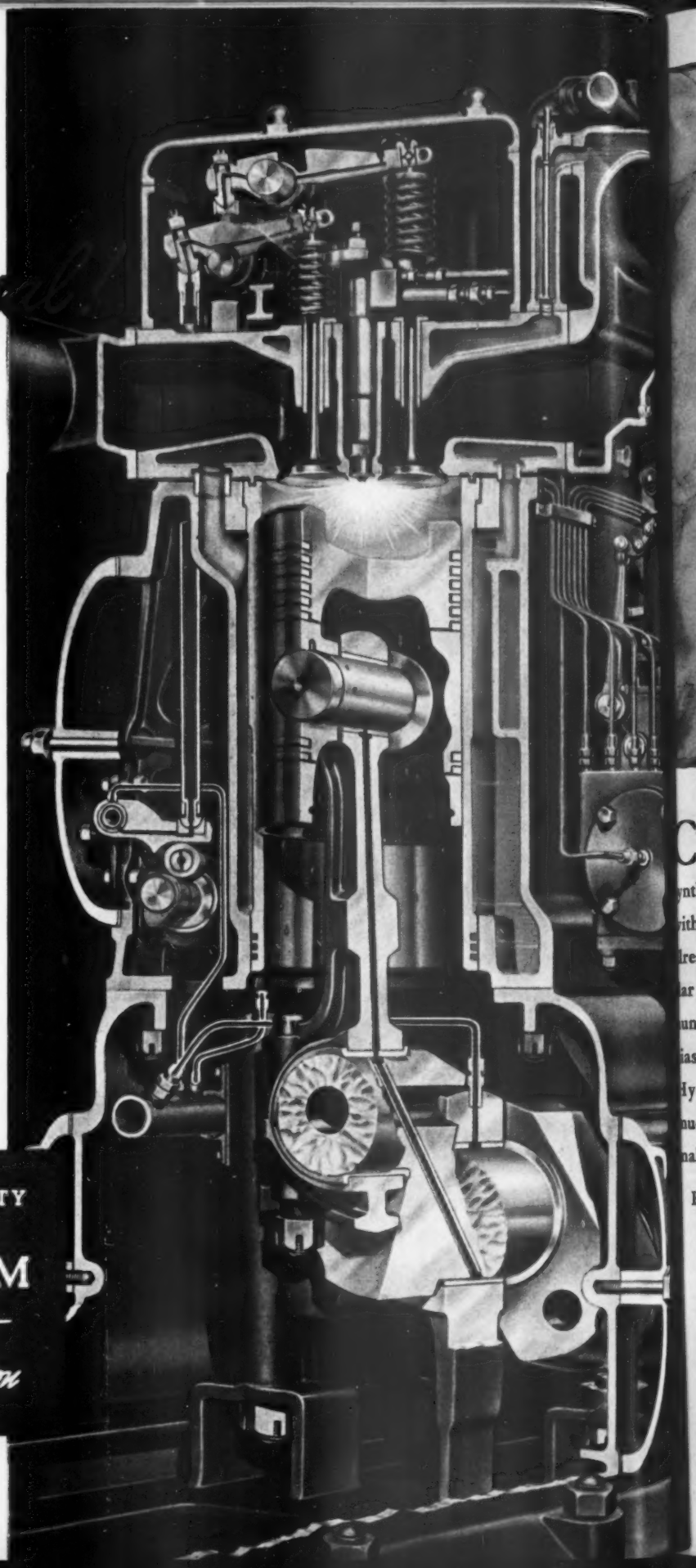

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— TENNYSON

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BUSINESS WEEK • NOVEMBER 4 • NUMBER 792 (with which is combined The Annalist and the Magazine of Business). Published weekly by McGraw-Hill Publishing Company, Inc., James H. McGraw, Founder and Honorary Chairman. PUBLICATION OFFICE 99-129 NORTH BROADWAY, ALBANY 1, N. Y. EDITORIAL AND EXECUTIVE OFFICES, 330 W. 42ND ST., NEW YORK 18, N. Y. James H. McGraw, Jr., President; Howard Ehrlich, Executive Vice-President for Business Operations; John Abbink, Executive Vice-President for Editorial Operations; Curtis W. McGraw, Treasurer; J. A. Gerardi, Secretary. Allow ten days for change of address. About subscriptions address: J. E. Blackburn, Jr., Director of Circulation, Business Week, 330 West 42nd St., New York 18, N. Y.

Subscription rates – United States, Mexico, and Central and South American countries $5.00 a year. Canada $6.00 for a year. Entered as second class matter December 4, 1936 at the Post Office at Albany, N. Y., under the Act of March 3, 1879. Return postage guaranteed. Printed in U. S. A.

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WASHINGTON BULLETIN

de Program in Works

he Administration is feeling its way rd a world trade program—the next e in international collaboration be- the military and political coop- on called for by the Dumbarton s proposals.

he main emphasis of British diplo- c conversations with the U. S. t postwar affairs is on trade. The sh fear a U. S. drive against cartels out a corresponding move to lower fs and abstain from subsidies on rt commodities.

his country, in turn, seeks an inter- onal trade program that will pro- large export outlets for U. S. goods, at the same time encourage imports s that will help put other countries, ch have exportable surpluses, back their feet.

spicion Abroad

fficial disclosures of this country's posed policy in world trade will be le after the election—if President sevelt wins.

he State Dept. is ready with detailed lies prepared in connection with this ntry's forthcoming proposal for a ltilateral trade agreement which is ected to be submitted to a four- er, or perhaps even a United Na- s, commercial conference. A strong ck by the Administration on the ff problem is in the offing.

rriving at international agreement commerce is expected to be more ficult than reaching an accord on the lective security program because of apprehension of other governments l groups in other nations about domi- ion by the U. S.

he cool reception that the Bretton oods monetary agreement (BW—Jul. '44,p15) received in Britain is evi- nce of the suspicion which attends s country's postwar aims. This sus- ion is aggravated by the cross-pur- ses at which our government agencies working, notably the War Food Ad- inistration's scheme to subsidize ex- rts of cotton and wheat (BW—Sep. '44,p18), which has aroused apo- ctic anger in the State Dept.

ngle Trade Agency Urged

To eliminate the confusion which re- lts from the present scattering of for- n trade affairs among half a dozen deral agencies, and thus enable this untry to pursue its foreign trade poli- cies with certainty and vigor, Donald Nelson is actively circulating a proposal that this country set up an agency similar to the British Board of Trade, its chief to have membership in the President's cabinet.

Such an agency would bring together the functions in the foreign trade field now performed by the State and Commerce departments, Foreign Economic Administration, Tariff Commission, Federal Trade Commission, and others.

Nelson's plan isn't likely to evoke much enthusiasm from Secretary of State Cordell Hull or Secretary of Commerce Jesse Jones.

•

Services Put on the Brakes

The official attitude toward reconversion has toughened up again—temporarily.

Barring sudden victory in Europe, you will hear more about war production lags and manpower shortages. Reconversion planning and step-by-step relaxation of controls by WPB will continue, but until manpower deficits are made up in half a dozen critical munitions programs, there will be less open support for resumption of civilian production.

The Army and Navy again are actively hostile to anything that seems to distract attention from arms production. Charles E. Wilson, president of General Electric and former WPB executive vice-chairman, has just called off a series of speeches on G.E.'s postwar plans at the request of the services.

Military spokesmen have scored several real triumphs in swinging civilian officials—notably Maury Maverick, chairman of Smaller War Plants Corp.—around to their viewpoint.

Paul V. McNutt's War Manpower Commission is squirming under the charge that manpower shortages are responsible for lags in heavy trucks, heavy ammunition, tires, textiles, and a few others. Last week, McNutt sounded out his aides on a drastic proposal to limit all referrals of workers to the half-dozen or so industries that are running behind their manpower goals. WMC officials talked him out of that but agreed to shorten the referral list and put additional pressure on manpower in critical areas.

Refining V-E Day Plan

The long interval between WPB chairman J. A. Krug's announcement of his plan for relaxing most controls after V-E Day (BW—Sep.9'44,p5) and the day when it can actually be put into effect is leaving time for refinements which wouldn't have been possible if V-E Day had come as soon as everybody expected.

As a result, business can expect that few industries will be entirely freed from controls immediately after V-E Day. WPB is finding that it can't let down all the bars without making life tough

Termination Documents Available

Washington has just ground out two solid documents on contract termination that war contractors will have to digest during the next few weeks. They are the quarterly report of the Director of Contract Settlement and the new joint Army-Navy termination regulation.

The director's report will be a handy reference volume for contractors as it combines all the regulations of the Office of Contract Settlement with sample settlement forms and general statistics.

Director Robert H. Hinckley reports that terminations so far have involved 37,000 prime contracts with a total value of $21,000,000,000. Of these, 28,000 terminations—involving items valued at $9,000,000,000—have been settled by payment of $340,000,000. Hinckley predicts that V-E Day terminations will run better than $20,000,000,000, most of them in the first three months.

The new joint termination regulation unifies Army and Navy termination procedures for the first time. Its 300 loose-leaf pages (to be supplemented at intervals by revisions) cover all angles of termination, including plant clearance, interim financing, pretermination planning.

Contractors can obtain the director's report from the Office of Contract Settlement, Federal Reserve Bldg., Washington; the joint termination regulation from the Joint Termination Regulation Distribution Office, 6th Floor, 90 Church St., New York City 7.

POST-WAR PROSPERITY

under wraps

Machines for making passenger cars were stored away when America went to war. Soon they will produce civilian automobiles and jobs again—and here's why they will be better automobiles than ever before!

▶ Producing 6,000,000 automobiles a year will provide many a postwar job.

The metals, rubber, fabrics, glass, ceramics, plastics, electrical parts and other materials consumed by such production will help to stimulate many industries.

Every car manufacturer will produce to the limit at first—and for some months after "the wraps" are taken off. All cars will be "easy to sell." But after most of the essential replacements are made—what then?

Early in the post-war period, cars will undoubtedly become better looking, more comfortable, easier to handle and drive. But the most significant progress in motorcar design will depend—in the future, as in the past—*upon the development of engines that get more work out of each gallon of gasoline.*

A big step in this direction has already been taken. Immediately after the war the petroleum industry will be able to supply gasoline of far higher quality . . . gasoline that *in engines designed to utilize it* will give more power, more mileage, better performance. Thus, the *foundation* for more efficient engines is already laid.

ETHYL CORPORATION

Chrysler Building, New York City

Manufacturer of Ethyl fluid, used by oil companies to improve the antiknock quality of aviation and motor gasoline.

Wartime progress by America's petroleum industry has paved the way for fundamental progress in post-war automobile engine design.

other agencies. Thus OPA com-
es, meeting with WPB (BW—Oct.
4,p5), have plumped for abandon-
t of quantity controls on civilian
s wherever possible, but would like
e some quality and distribution
rols retained. Other agencies—For-
Economic Administration, Smaller
Plants Corp.—are having their say.
gether, there have been more than
uch meetings, and there will be
e.

WPB's detailed V-E Day plan (a
nd draft of it was on Krug's desk
this month) is undergoing constant
ification.

●

Single Price Plan

PA's plan for a single, over-all re-
price scheme to replace the General
imum Price Regulation outlived
chiefs of the agency's Consumer
ds Price Division, Reagan Connolly
Byres Gitchell. The incumbent,
me Ney, isn't taking any chances.
king this week before the National
il Dry Goods Assn., he gave the
a public funeral. It was privately
rred long ago (BW—Sep.16'44,p7).

●

ung to See Biddle Again

Robert R. Young, chairman of rail-
d-owning Alleghany Corp., will pay
ther call on the Dept. of Justice
t week to talk over the pending anti-
st suit against the western roads
W—Sep.9'44,p32). Justice Dept. at-
neys welcomed Young's first visit
week when he indicated that he
ght support their contention that re-
m in present rate-making practices is
irable.

Antitrust officials think they have a
d case on legal grounds but are
ng by the railroads' charge that it
all a bluff. They therefore liked the
blicity which followed Young's first
k with Attorney General Francis
ddle.

Young, always a lone wolf among
lroad men, for years has been feud-
g with the investment houses of J. P.
organ and Kuhn, Loeb, two of the
fendants in the pending suit.

●

orter and Reinsch on FCC?

With the retirement of James Law-
nce Fly from the Federal Communi-
tions Commission this month, after
e stormy years, two vacancies will ex-

Polltakers Weigh the Election

That this is likely to be the closest presidential election since the Wilson-Hughes contest of 1916 (page 15) is borne out by the fact that both of the two national polls reporting the probable state-by-state vote put the majority of the electoral votes in the statistically unpredictable "pivotal" range.

(A small statistical sample, such as those on which the polls are based, is subject to a possible error of about 4% in either direction. The pivotal states are those which fail to show a majority for either candidate greater than this possible error.)

● **What Polls Show**—The final Crossley poll credits Roosevelt with 151 sure electoral votes and Dewey 66—the remaining 314 being pivotal. The final Gallup poll will not be released until next Monday, but the semi-final report gives Dewey 66 sure electoral votes and Roovevelt 179, with 286 in the doubtful range. A majority of the electoral college is 266.

If the doubtful states are distributed between the candidates according to the leaning shown by the polls, Crossley gives Roosevelt 277 votes, Dewey 150, with 104 exactly on the line, Gallup gives Dewey 255, Roosevelt 206, with 70 on the line. Crossley goes on to predict which way the 50-50 states may go—a forecast which he qualifies by saying that it is his personal appraisal, as "sound research practice does not permit poll-reporting to make estimates of photo finishes." He divides the 104 votes on the 50-50 line as follows: 27 for Dewey and 77 for Roosevelt, making his final guess give Roosevelt 354, Dewey 177.

● **Soldier Vote Factor**—The comparability of the two polls is affected, however, by the fact that Gallup does not include any estimate of the soldier vote, while Crossley attempts to predict this factor on the basis of the preference of civilians of the same age.

As to the effect of the soldier vote, Gallup says: ". . . in some states the soldier vote may add as much as 1% to Roosevelt's figure." Crossley's figures show that the nationwide vote is shifted 1% toward Roosevelt by inclusion of his estimate of the soldier vote.

If Gallup's state-by-state figures were to be shifted toward Roosevelt by 1%, as an estimate of the effect of soldier ballots, his total would be Roosevelt, 276; Dewey, 177; on the line, 78. And the 177 votes that this computation gives to Dewey are, state for state, the same as those credited to Dewey in Crossley's personal appraisal.

● **The "Undecided" Vote**—Crossley's final survey brings to light some interesting facts which may have a vital effect on the election.

A special "voting apathy" poll showed Roosevelt partisans slightly more interested in casting ballots than were Dewey voters. Voters who remained undecided until most recently showed a slightly higher pro-Roosevelt percentage than those who had made up their minds a month or more ago. And as of late October, the Roosevelt voters were slightly more certain that they would stick to their choice than were the Dewey voters.

It is conceivable—though not likely—that the final result of the election will not be known on Nov. 8, possibly not until Dec. 5—because eight states will count soldier ballots received after Nov. 7. Five of these do not count any soldier votes on election day, but impound them all until the official canvassing date. Therefore, none of these states will be certain for either candidate unless his civilian plurality exceeds the number of uncounted soldier ballots. The eight states are:

State and Electoral Vote	*Date of Counting of Soldier Ballots*	*Whether or Not Impounded*	*Number of Soldier Ballots Mailed Out*	*1940 Plurality for Roosevelt (R) or Willkie (W)*
Mo. (15)	Nov. 10	Yes	120,000	87,467 R
Pa. (35)	Nov. 22	Yes	644,305	281,187 R
Colo. (6)	Nov. 22	Yes	36,000	14,022 W
Calif. (25)	Nov. 24	Yes	256,612	526,199 R
Wash. (8)	Nov. 24	No	67,000	140,022 R
Neb. (6)	Nov. 30	No	Not available	88,524 W
N. D. (4)	Dec. 5	No	16,000	30,554 W
R. I. (4)	Dec. 5	Yes	40,000	43,529 R

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Webster Engineers have found through thousands of surveys that seven out of ten large buildings in America (many less than ten years old) can get up to 33% more heat out of the fuel consumed.

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ist on the commission. The first occurred with the retirement of T. A. M. Craven last June.

Dopesters are speculating that either Paul Porter, Democratic National Committee publicity director, or J. Leonard Reinsch, the Democratic committee's radio chief, will be named if President Roosevelt is reelected—possibly both.

Either man would be acceptable to the broadcasting industry. Fly is reported to favor Porter, but Porter's friends say he would not accept appointment. Porter, a former attorney for Columbia Broadcasting System, was OPA wartime rent control chief until last July. Reinsch is on leave as managing director of several radio stations owned by James M. Cox, Roosevelt's running mate in the presidential election of 1920. Reinsch is a strong advocate of new radio legislation to spell out FCC's powers.

•

Windfall for Texas Citrus

The Florida hurricane may have blown a windfall to Texas citrus growers in the form of higher price ceilings if Florida citrus growers can convince the War Food Administration that Florida's storm loss is worse than WFA thinks it is.

WFA admits that storm damage is likely to cut Florida's grapefruit crop 43%, oranges 20%, tangerines 6%. But the growers claim damage of 55%, 30%, and 15%, and they want prices upped by 65¢ to 75¢ a box.

Raising ceilings to cover the misfortune of Florida growers would give Texas growers an opportunity to raise their prices, as it is impractical to set higher ceilings only for the fruit grown in Florida, because you can't tell by looking at a grapefruit where it comes from.

Texas' Oct. 1 estimates on production were 20,150,000 boxes of grapefruit and 3,750,000 boxes of oranges. WFA's poststorm estimates for Florida are: grapefruit, 20,500,000 boxes; oranges, 20,500,000; tangerines, 4,700,000.

Another result, if prices on fresh fruit go up, will be less citrus for canning.

—*Business Week's Washington Bureau*

THE COVER

Keeping pace with the increasing tempo of war is the medical discharge rate of United States fighting men, who swamp Selective Service boards seeking answers on the shift from military to civilian life—and loans to finance the transformation (page 66).

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HE OUTLOOK

SINESS WEEK
VEMBER 4, 1944

Outcome of this presidential election, over the short run, will have little effect on the business outlook. Ours is still a war economy.

The long run, however, is something else again. **Businessmen generally feel that they will live in a more friendly climate if Dewey wins.** They also have more confidence in his ability as an administrator.

The fact remains that Wall Street—which mirrors business sentiment through investors' dollars—hasn't staged a "Republican rally." **Traders, hard-headed as always, take the official betting odds seriously.**

•

The course of business activity over the next few months is cut and dried, as nearly as such a thing is possible. **It will be determined by how much the armed forces want and how soon they want it.**

The military will continue in the driver's seat after V-E Day, dictating the cutbacks and thus, more or less directly, reconversion.

This again emphasizes the dramatic shifts in the military timetable.

Our generals have been warning for some time that the Nazis might not be defeated this year. Prime Minister Churchill—for the political reason, among others (page 112), of avoiding a general election now—told Parliament this week that the European war might drag into next summer.

Meanwhile, the smashing defeat of the Japanese navy has materially shortened the probable length of the war in the Pacific (page 111).

•

Business Week repeatedly has pointed to the possibility—not probability—that the two fronts might collapse within a few months of one another. It is generally agreed that this would mean severe economic shocks.

Suppose Germany should not fall before June, and that it then appeared certain that Japan would go within the year. Initial cutbacks would be accentuated; all war production, of course, would end shortly after Japan's defeat.

Thus, in the space of a few months, about 60 billion dollars of munitions expenditures yearly would be cut off. That's quite a slice of present annual manufacturing volume of between 95 and 100 billion dollars or a gross national product now running about 195 billion.

Bear in mind, though, that this is painting the business picture in its darkest colors. Organized resistance in Germany won't last long after we cross the Rhine, our immediate objective (BW—Oct.28'44,p107).

•

We have gone a long way in preparing for the transition from a war to a peace economy, if you add everything up. Laws have been passed, techniques established, and experience gained in meeting specific problems.

Spot authorization—This method of piecemeal reconversion, after a faltering start, is beginning to surprise everybody (BW—Oct.28'44,p15).

Reconversion pricing—Although still a thorn in the side of business, OPA is trying to maintain a flexible policy and aid WPB programs.

WPB controls—The announced plan to scrap almost all the L (limitation) and M (raw material) orders on V-E Day is the greatest single help to industry in its reconversion planning.

Termination—Experiences in actual termination and settlement of war contracts, plus the pretermination or "dress rehearsal" technique of preparing for the real thing (BW—Oct.28'44,p21), will save time, headaches.

Surpluses—An unduly burdensome disposal law isn't helping any, but some progress has been made in planning surplus disposal. A little experi-

ence has been gained in clearing manufacturers' floors of excess tools, and plans are being considered for constructing great numbers of prefabricated sheds to house such machinery.

Taxes—Exploratory talks have won agreement that corporation excess-profits taxes should be cut after victory in Europe; there is also agreement—in principle, at least—on ending this levy as soon as is possible.

•

Placement of war workers and ex-servicemen in civilian industry as this becomes necessary is now getting the studious attention of the War Manpower Commission and United States Employment Service.

WMC now is compiling an industry-by-industry series of loose-leaf studies for USES counselors. These give employment needs, types of jobs, job training, wages, and working conditions in various lines.

While WMC and USES have no postwar standing, **here is a tip that they are planning to make themselves useful enough to be carried over.** USES and the WPB's Area Production Urgency Committees have cooperated in getting people into war work, should be able to help in getting them out.

•

WPB's recent authorization for Mack Trucks, Inc., to resume production of buses at its Allentown (Pa.) plant is mainly a belated effort to get bus output up to schedule—and up to needs of over-worked line operators.

Integral buses turned out in the first nine months of this year numbered 3,587, 20% below schedule. Lack of castings has held things up, as in the case of heavy trucks for the Army.

The go-ahead for Mack can't remedy the situation at once, however. It will take two or three months to get ready for manufacturing, and there will be a further lapse of several months before initial deliveries.

•

Look for a drive to raise floor and ceiling prices on better-grade cattle and hogs—and for improvement in quality of the meat your butcher offers.

Present ceilings were set to discourage putting grain into slaughter animals. Now, with record corn and wheat crops, the worries about feed shortage have evaporated.

More feeding of corn will mean more pounds per animal as well as more toothsome beef. This will give you some idea: **Since midsummer we have been killing 10% more cattle in order to get 6% more meat than last year.**

Note to the shoe trade: Fatter cattle necessarily have bigger hides. **Signs of a pickup in production of soft goods,** as indicated by the Federal Reserve Board's index figures on shoes and textiles for September, **are to be viewed as pretty much a flash in the pan.**

The Army, which was supposed to have pretty well filled all nearby needs for woolens, has come in with large orders to be filled in the first quarter of 1945. **These will take two-thirds of current output.**

Men's wool suits will be scarcer next spring as a result.

The cotton textile trade looks for steady, if slight, deterioration in the production situation due to declining manpower. Shoe manufacturers feel that they will do well to maintain the recent rate of output.

There has been a steady decline in production of leather shoes for civilians and a very heavy draft on inventory. Nonmilitary production has been held on an even keel—over 35,000,000 pairs a month—by greater volume of the types which are not rationed.

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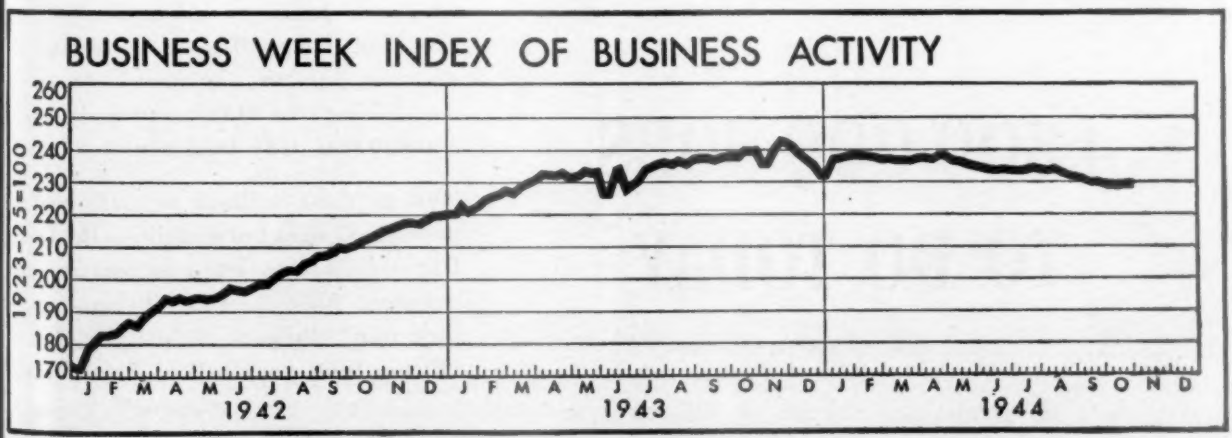
FIGURES OF THE WEEK

	§ Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
THE INDEX (see chart below).	*230.5	230.6	230.8	239.4	240.9
PRODUCTION					
Steel Ingot Operations (% of capacity)	94.9	96.3	95.6	99.5	100.0
Production of Automobiles and Trucks	21,035	20,660	20,935	16,345	19,135
Engineering Const. Awards (Eng. News-Rec. 4-week daily av. in thousands)	$5,785	$5,530	$4,962	$6,372	$8,296
Electric Power Output (million kilowatt-hours)	4,358	4,345	4,366	4,336	4,453
Crude Oil (daily average, 1,000 bbl.)	4,741	4,745	4,762	4,431	4,383
Bituminous Coal (daily average, 1,000 tons)	1,967	1,979	1,975	2,042	1,911
TRADE					
Miscellaneous and L.C.L. Carloadings (daily average, 1,000 cars)	88	87	86	82	85
All Other Carloadings (daily average, 1,000 cars)	63	62	63	58	65
Money in Circulation (Wednesday series, millions)	$24,216	$24,157	$23,658	$21,396	$19,090
Department Store Sales (change from same week of preceding year)	8%	17%	9%	−11%	12%
Business Failures (Dun & Bradstreet, number)	15	12	15	41	49
PRICES (Average for the week)					
Spot Commodity Index (Moody's, Dec. 31, 1931 = 100)	248.2	248.7	251.8	249.5	246.6
Industrial Raw Materials (U. S. Bureau of Labor Statistics, Aug., 1939 = 100)	166.3	166.3	165.9	162.6	160.9
Domestic Farm Products (U. S. Bureau of Labor Statistics, Aug., 1939 = 100)	224.6	225.5	224.4	221.9	214.9
‡Finished Steel Composite (Steel, ton)	$56.73	$56.73	$56.73	$56.73	$56.73
‡Scrap Steel Composite (Iron Age, ton)	$15.75	$15.67	$16.08	$19.17	$19.17
‡Copper (electrolytic, Connecticut Valley, lb.)	12.000¢	12.000¢	12.000¢	12.000¢	12.000¢
‡Wheat (No. 2, hard winter, Kansas City, bu.)	$1.61	$1.62	$1.60	$1.64	$1.53
‡Sugar (raw, delivered New York, lb.)	3.74¢	3.74¢	3.74¢	3.74¢	3.74¢
Cotton (middling, ten designated markets, lb.)	21.39¢	21.52¢	21.80¢	20.95¢	20.04¢
‡Wool Tops (New York, lb.)	$1.340	$1.340	$1.333	$1.294	$1.301
‡Rubber (ribbed smoked sheets, New York, lb.)	22.50¢	22.50¢	22.50¢	22.50¢	22.50¢
FINANCE					
90 Stocks, Price Index (Standard & Poor's Corp.)	101.5	102.6	101.5	94.6	94.5
Medium Grade Corporate Bond Yield (30 Baa issues, Moody's)	3.54%	3.54%	3.56%	3.66%	3.81%
High Grade Corporate Bond Yield (30 Aaa issues, Moody's)	2.73%	2.72%	2.72%	2.73%	2.69%
Call Loans Renewal Rate, N. Y. Stock Exchange (daily average)	1.00%	1.00%	1.00%	1.00%	1.00%
Prime Commercial Paper, 4-to-6 months, N. Y. City (prevailing rate)	¾%	¾%	¾%	¾%	⅝–¾%
BANKING (Millions of dollars)					
Demand Deposits Adjusted, reporting member banks	37,438	36,614	35,435	34,524	31,817
Total Loans and Investments, reporting member banks	54,088	54,079	54,673	51,064	52,982
Commercial and Agricultural Loans, reporting member banks	6,183	6,136	6,076	6,069	6,424
Securities Loans, reporting member banks	2,474	2,408	2,480	1,937	2,728
U. S. Gov't and Gov't Guaranteed Obligations Held, reporting member banks	40,092	40,197	40,724	37,834	38,327
Other Securities Held, reporting member banks	2,889	2,902	2,969	2,867	2,887
Excess Reserves, all member banks (Wednesday series)	800	900	865	640	1,062
Total Federal Reserve Credit Outstanding (Wednesday series)	17,899	17,795	16,943	13,485	9,686

*Preliminary, week ended October 28th.
‡Ceiling fixed by government.
†Revised.
§Date for "Latest Week" on each series on request.



4,300,000 JOBS TO DO TODAY

These are busy days for everybody in the telephone business. About 4,300,000 Toll and Long Distance messages go over the lines in the average business day. (That's in addition to more than 100,000,000 daily local conversations.)

Most of these millions of messages go through all right but sometimes the Long Distance lines to war-busy centers get crowded. Then the Long Distance operator may ask your help by saying – "Please limit your call to 5 minutes."

BELL TELEPHONE SYSTEM

BUSINESS WEEK

NUMBER 792
NOVEMBER 4, 1944

Election Outlook

War and the foreign policy issues put the odds on the Democrats for the presidency, the Senate, and even the House, but they could be overturned in the closest election since 1916.

Business concern about the relation of political leadership to the war and to the economic outlook (page 9) inevitably made the election a primary topic of speculation in the factories, offices, stores, and farmyards of the country this week.

• **Already Set**—Little of the speculation revolved around possible last-minute shifts in the odds, for experience has shown that few changes in votes are likely to be effected by the climactic crescendo of oratory that fills the final days of a presidential campaign. It was accepted that, for all practical purposes, the 1944 campaign had already come to its end.

It was also generally accepted that the odds were on Roosevelt, even though this could well prove to be the closest contest since Wilson kept the presidency from Hughes by the breathlessly narrow measure of California's handful of electoral votes.

• **Weighing the Chances**—Hard-headed Wall Street saw that conclusion written in the betting commissioners' books and was even tempted to doubt the narrowness of the impending margin. Political speculators, studying the public opinion polls and trying to weigh the imponderables—the soldier vote, the nonparty sentiment, and the volume of stored-up grievances against the Roosevelt Administration—gave close attention to the consensus of the political writers.

They found that a majority of the men who had canvassed the states, ridden the campaign trains, and watched the contest from beginning to end for the country's press had come out with three main conclusions. These conclusions, definite but less dogmatic and opposed by a larger minority than in any year since 1916, were:

(1) That President Roosevelt will be reelected to a fourth term.

(2) That the Democrats will retain control of the Senate even if Dewey wins.

(3) That the House of Representatives will remain narrowly Democratic if Roosevelt wins.

• **Three Forecast Points**—This presidential forecast rested chiefly on three points.

One centers on the war news. The slowness of the stubborn fight on the Western Front, with the great Rhine offensive evidently postponed until well after election, is expected to cut the strength of Dewey's emphasis on "leadership for the postwar years" and to weaken the willingness of voters to risk the conviction that "it's time for a change." At the same time—if somewhat contradictorily—the pre-election naval victory in the Philippines is counted for an argument against "breaking the continuity of leadership while the battles are going so well."

• **On the Record**—Second, much is made of the point that, on the record, the two nominees are not in basic disagreement on any essential domestic or foreign policy and, therefore, apart from objections to a fourth term in principle, the choice is likely to lie in which leadership—President Roosevelt and the Democratic Party or Governor Dewey and the Republican Party—will do the most important things better.

Here the forecasters emphasize the fact that Dewey is obviously handicapped by the congressional votes of his party against many of the main foreign and domestic purposes that he has espoused in the campaign.

• **The Persistent Issue**—Third factor in giving the edge to Roosevelt is a judgment on strategy. Despite Dewey's most strenuous efforts and despite his full-length indorsement of the Dumbarton Oaks security plans, the Republican nominee has been unable to remove foreign policy as an issue. The Dewey strategy obviously has been to try to convince the country that it can safely vote against a domestic administration that he believes it does not want without risking a peace program that he recognizes it does want.

The political observers see that

Franklin D. Roosevelt meets the electorate in Philadelphia (left), Thomas E. Dewey in Chicago, as both men make last-minute public grandstand plays in the home stretch of the most fervid presidential race since the last war. But this year the home stretch stretches to Dec. 5, last date for the last state tally of the votes of that important section of the electorate whose big parades are taking place a long way from Main Street *(page 7).*

strategy countered by Roosevelt's jump ahead in advocating that the American delegate to the proposed Security Council be endowed in advance with congressional authority to vote the use of force against aggression, and by the play that the President has made of the G.O.P.'s so-called isolationist record in Congress.

Thus, the campaign closes with Roosevelt on the offensive on two foreign policy issues—one of leadership and one of party capacity to carry forward the expressed aims of both leaders.

• **Senate and House**—The congressional forecasts are based on mathematics and history. To win the Senate, the Republicans would have to elect 24 of 28 senators who are running this year outside the Deep South, and the list includes candidates in such doubtful states as Kentucky, Maryland, California, Oklahoma, New York, Connecticut, and Missouri. To win the House without Dewey—and in face of the Solid South—they would have to repeat what their party accomplished only against Hayes in 1876 and against Wilson in 1916—perhaps a strong possibility in this election year which has been compared with 1916, but not an odds-on bet.

Safest odds of all are probably those placed on the prospect that whoever wins the White House will have legislative trouble on his hands—Dewey with a Democratic Senate, unless his sweep is far reaching; Roosevelt with a House which will continue to be ruled on domestic matters by an anti-New Deal coalition of southern Democrats and Republicans.

Stopgap Building

Slight relaxation of rules will give construction industry something definite to work on but only in congested areas.

Hope dies hard in Washington, but the construction industry is about ready to admit that it isn't getting anywhere with its campaign for immediate relaxation of controls over residential building.

• **Interim Program**—Contractors now are trying to content themselves with the consolation prize handed them by WPB and the National Housing Agency—an interim program of home building in congested areas.

War agencies and the industry alike regard the new program as a stopgap, but from a contractor's viewpoint it has the advantage of being something definite and immediate. If Germany goes under within the next few months, the new program may be swallowed up in a general removal of controls (BW—Sep.30'44,p5). If not, it will provide a volume of residential construction just large enough to hold the industry together until V-E Day.

• **Limited by WPB**—Since 1942, all construction has been regulated by WPB's master order L-41. This limits construction to projects contributing in one way or another to the war effort (BW—Mar.25'44,p15). The only residential building permitted during the war has fallen into two classes: (1) war housing (the H-1 program), and (2) hardship cases affecting health or safety (the H-3 program).

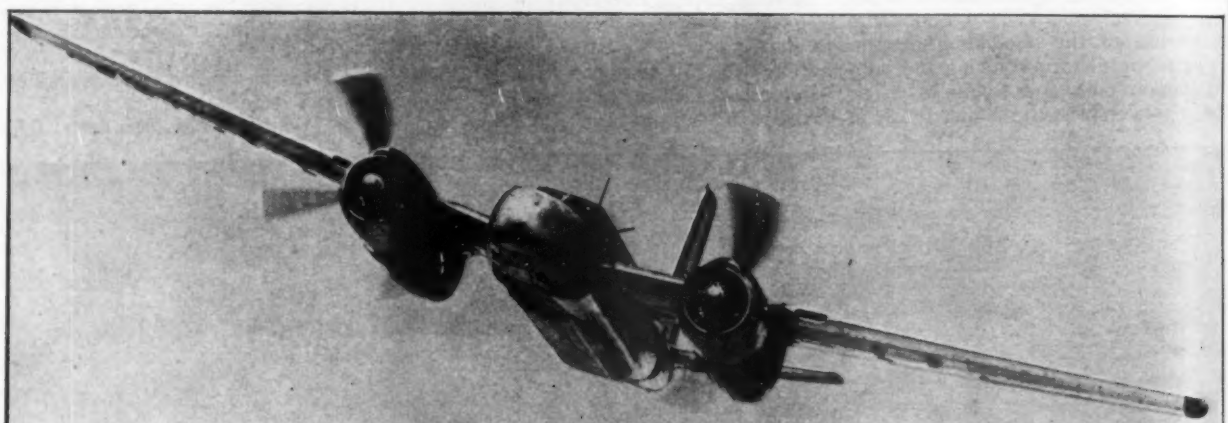
The effect of the new program is to set up another category (H-2) of housing eligible for approval. H-2 housing will be confined to congested areas, but it won't be subject to occupancy restrictions. This is the main point that distinguishes it from H-1 war housing. Everything built under the war housing program has to be reserved for immigrant war workers.

• **Top Price Is $8,000**—The H-2 program makes provision for a higher sales price and a higher rent than anything allowed under war housing rules. NHA, WPB, and OPA have worked out a three-cornered agreement which sets a top price of $8,000 and a maximum shelter rent of $65 on H-2 housing in selected high-cost areas. Top for war housing has been $6,000, with a rent of $50.

Wrangling over the sales price was one of the things that delayed action on the new program. NHA has been working on its H-2 plans since early summer, but it didn't get all the details ironed out until last week.

• **OPA Objected**—Originally, NHA wanted a $9,000 top in high cost areas, but this proposal promptly drew fire from OPA.

In compromising on $8,000, OPA got a gentlemen's agreement with NHA limiting the top price to eight areas and to not more than 15% of the program. It also insisted that the more expensive H-2 houses should show a



LETHAL FLEXIBILITY

Hottest plane in the Army's aeronautical stable is the Douglas A-26, an attack bomber which already has acquired a reputation for versatility. Powered by twin 2,000-hp. engines, the invader is being adapted as bomber, night fighter, torpedo destroyer, and for strafing jobs. In addition the ship is a case study in industrial and mechanical ingenuity. Designed in 1941, it was the first Douglas plane developed for mass manufacture, and requires an extremely short production line—specially equipped to fit the plane for specific missions, thus saving trips to modification centers. Faced with a shortage of welders, Douglas substituted a sheet metal type mount for the customary welded steel tubing, has devised a single power assembly that can be used interchangeably on either wing.

TTING THE STAGE

nferring on a program for the In-national Business Conference are r American trade and industrial ders whose organizations are spon-ing the unprecedented confab ich opens next week. They are t to right) Eliot Wadsworth, chair-n of the International Chamber of mmerce's American section; Eric nston, U.S. Chamber of Com-rce president; Robert Gaylord, sident of the National Assn. of Manufacturers; and Eugene P. Thomas, National Foreign Trade Council president. Their meetings with their opposite numbers from 48 Allied and neutral nations will be the first united efforts of private American interests to plan a smooth transition to international postwar trade—on a private basis. The eight-day conference, opening at Rye, N. Y., Nov. 10, will be as significant to U.S. business as the Bretton Woods and recent Dumbarton Oaks talks—at the diplomatic level—were to the nation.

esponding improvement over war using in the same district.

Higher Standards—The maximum ce angle is doubly important to ilders because most H-2 housing will e to be financed through the regular rtgage insurance (Title II) of the deral Housing Administration. This s stiffer construction standards than HA's emergency financing (Title VI), ich was used for war housing.

Builders argued that if the ceilings re set too low, they wouldn't be able qualify for Title II financing. Some dict that in the highest cost areas, h as Cleveland, even $8,000 won't e them enough elbow room.

Material Eased—WPB already has en care of another trouble spot by axing its restrictions on the use of terials in properly authorized hous-. Its biggest concession was to knock t the limits on total floor area, sub-uting a more flexible control on use lumber.

It also reshuffled the war housing tical list of materials, in effect giving ilders permission to use any materials y could get without a rating, in ad-ion to what they procured with prior-assistance.

From the viewpoint of the would-be home owner, the H-2 program is a step back toward peacetime conditions, but only a short step. Removal of occupancy restrictions opens the field to all residents of the areas that NHA designates as congested. Otherwise, it doesn't change the picture to any great extent.

• **10,000 Units Now**—To the building industry, the H-2 program means at least a minimum level of activity from now until V-E Day. NHA expects to program about 10,000 family dwelling units immediately. After the end of the year, things will move faster.

Even if the war in Europe drags on into the middle of 1945, officials think they will be able to authorize about 200,000 starts for the next year. If the war should end within the next three months, they hope to get 400,000 units started in 1945.

• **Procedure Unchanged**—Until WPB takes the breaks off, the procedure for authorizing construction will remain about the same. The H-2 program, like the war housing program, will be administered by NHA.

Prospective builders will make application to NHA field offices. NHA will match up their requests with quotas established for the various congested areas, approve the applications, and pass out priorities just as it does now.

Meanwhile, WPB is taking a thoughtful look at the restrictions that L-41 clamps on industrial construction. Odds are that it will whittle away at these steadily until V-E Day.

• **Policy Revised**—WPB already has adopted the informal policy of approving any project that does not interfere with the war program instead of hewing to the strict requirement that every project make a direct contribution to the war. Contractors who had applications turned down some time ago are finding that this is a good time to resubmit them.

Jet Plane on Ice

It's hottest thing on wings, but apparently not for this war. Planes aren't fast enough to use powerplant most efficiently.

Every day in all the theaters of war overloaded fighter planes are being launched from carrier decks and landing fields by the use of packaged rocket power.

The German robot bomb has already made its indelible mark in the history of this war—and the United States is now readying a similar weapon (BW—Oct.28'44,p19).

• **For the Next War**—But of all the new types of powerplants developed to supplement or replace the orthodox internal combustion engine in air-borne machines, the most revolutionary of all—the jet propulsion engine—apparently is destined for the next war, not this one.

That seems to be the significance of the Army's surprising announcement last week that it was reducing its contract with Bell Aircraft Corp. for the jet-propelled P-59A fighter planes (illustration, page 19), just a few weeks after the public had been let in on the secret that production had at last been achieved after two years of work in developing the Airacomet (BW—Jul.8'44,p10).

But it does not mean that the Army is writing off jet propulsion—far from it. The jet plane may not be the winning weapon in this war, but the Army obviously intends to continue a vast development program so that we won't be caught napping if the Germans do succeed with their jet-propelled Messerschmitt in licking some of the problems that now keep this kind of aircraft from being a first-class fighting machine. Such strategy is implicit in the following:

(1) The admission that production of Airacomets will be continued, presumably at cutback levels, and that Bell employment will not be cut.

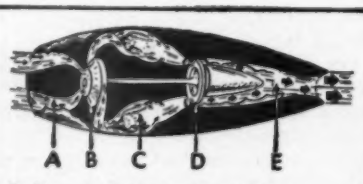
(2) The announcement this week that General Motors' Allison Division will operate a $12,500,000 Defense Plant Corp. plant (including 17 test cells) for the production of jet engines.

(3) Testing of a new and even faster jet-propelled fighter, developed by Lockheed.

(4) Continued research work by other aircraft companies—notably North American, which is scheduled to have a jet plane in six months, and Curtiss-Wright which recently announced a new jet-propulsion research program.

Fast as the jet-propelled planes are—the fastest ever flown—their big limitation is their inability to achieve that speed at which the jet engine can be used with real efficiency. And it is that factor of efficiency which may dictate the use in tomorrow's plane of a combination of the principles of all three kinds of powerplants—air jet, impulse duct, and gas turbine.

• **G.E. Development**—The gas turbine powerplant in the Bell P-59A is a development by General Electric of the original design worked out by R. A. F. Squadron Leader Frank Whittle of England. The best description of its operation is provided in the following diagram and comment from a General Electric advertisment:



Q: How does the engine work?

A: Air flows from "A" through the compressor "B" into combustion chamber "C," where it is heated and expanded by burning fuel. Rushing toward the outlet, part of this hot gas turns turbine "D," which operates the compressor "B." From here the gas rushes through nozzle "E." The jet from this nozzle drives the plane forward.

Unlike the conventional propeller-type plane which is pulled through the air, the propellerless jet plane is literally pushed through the air. The rearward force of the jet shoves it forward like a garden hose whose nozzle backs away when the water is turned on. Fuel is kerosene or low-grade fuel oil.

Power units of the gas turbine type have been used in stationary engine installations on the ground for several years, but these engines are used to drive generators or other devices and therefore have no power jets.

In the airplane installations a conventional propeller can be attached to the gas turbine shaft and used for propulsion instead of the jet. A combination of propeller and jet also can be used and has been embodied in some of the designs under development.

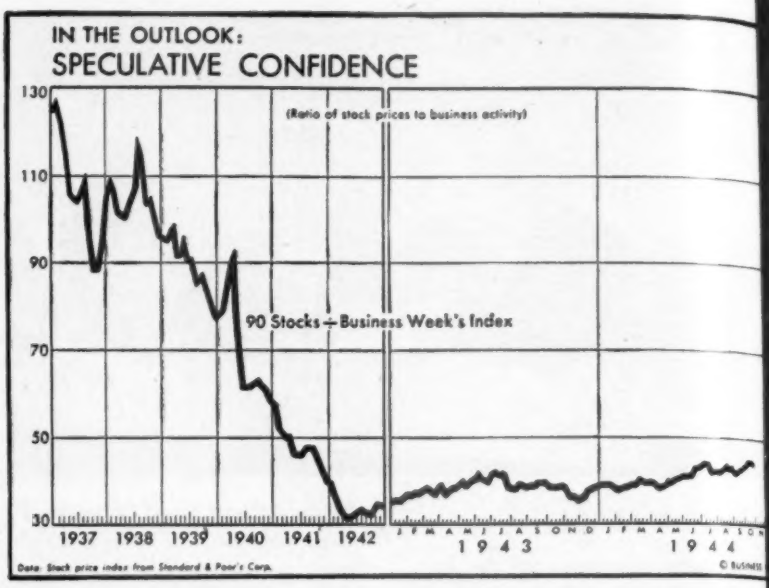
• **Disadvantage Overcome**—The propeller-jet combination overcomes one of the inherent disadvantages in the turbine-jet powerplant, its inefficiency at low speeds and altitudes. With this arrangement it seems possible to use the propeller where it is most efficient—for takeoff and until the airplane reaches speeds of more than 500 m.p.h. and altitudes above 25,000 ft. When the plane passes beyond and above this speed and altitude, propeller efficiency drops off rapidly, the blades are feathered, and the jet comes into play.

To get the most out of your jet-propelled airplane it must be moving at somewhere near the speed of sound, which is about 700 m.p.h. but at this point a new problem turns up to harass the aeronautical scientist seeking higher and higher speeds. The problem is called compressibility, which means that the air piles up in front of the wing, and the piling breaks up the smoothness of air flow over the wing surface. The wing is then buffeted around by an shock waves of air which threaten destroy it and impair its lifting abil It is this same trick of nature that duces the efficiency of propeller bla when their rotational speed reaches toward the speed of sound.

• **Seeking Solution**—This problem the aerodynamicists burning midni kilowatts in their high-speed wind t nels, and sooner or later they will f the answer. Thin wings, of course, not as susceptible to compressibility thick ones, but it is difficult to p strength and gasoline capacity into thin wing.

Another idea is to make the cling more closely to the wing by troducing some sort of suction. until this problem is solved, the plane won't be able to go fast enough make the most of its turbine-jet pow plant.

• **New Alloys Needed**—Another pro lem that must be solved to increase t efficiency of the turbine-jet engine in the province of the metallurgi Most engines of this type are now r below their most efficient operati temperature to increase their When new alloys come along which



The creeping rise in "speculative confidence" has shown signs of becoming more vigorous in recent months. This, however, has been as much due to declining business activity as to sporadic upturns in the stock market. Principal interest really should concern the movement of this measurement when the heavy cutbacks come. Business Week's Index of Business Activity then undoubtedly will much more sharply than it has at time since the peak a year ago. the stock market, in its turn, pres ably has fully discounted this; sto are selling on what Wall Street mi call an ex-Germany basis. If sto hold steady or rise during the cutb period, speculative confidence may expected to skyrocket.

withstand higher temperatures, turbine will be a much more t machine.

it is not nearly so serious to burn rbine-jet engine as it is a recipro- engine of the conventional type. rbine-jet power plant has just a ving parts; the reciprocating en- s hundreds. It is the simplicity turbine type that endows it greatest promise.

ent But Complex—Through the aircraft engine designers have n astounding job of increasing wer and decreasing the weight rsepower of the conventional re- ting engine. But their efforts een directed toward mechanical ements which increase the com- ns of design as the power goes heir ingenuity has enabled them ve a product in which reliability ration is maintained, and even ed, although the device becomes ore complicated.

these mechanical marvels reach el of about 3,000 hp., they be- terrifically complicated and as ers look beyond this power output egin to seek refuge in mechanical ements which consist essentially ing more than one of the recipro- engines together. Fuel research and in hand with engine develop- and the large powerplants must premium gasoline of high octane

s up in that high power range he gas-turbine looks most attrac- And its greatest advantage lies in t that all you have to do is make ger and you get more power in rtion to size without wracking engineering brain to find ways to e more and more power out of me old type of cylinder. Fuel almost any liquid that burns.

ng Carburetor—Because of the with which the size and output of turbine engine can be scaled up, ked for a while as though this powerplant would be used mostly fast, high-flying airplanes. Then came the Germans with their ro- plane (illustration, right); its im- duct engine was so simple that uld build one in your cellar work- in a few hours with not much than a soldering iron, some sheet , and a few fastening devices.

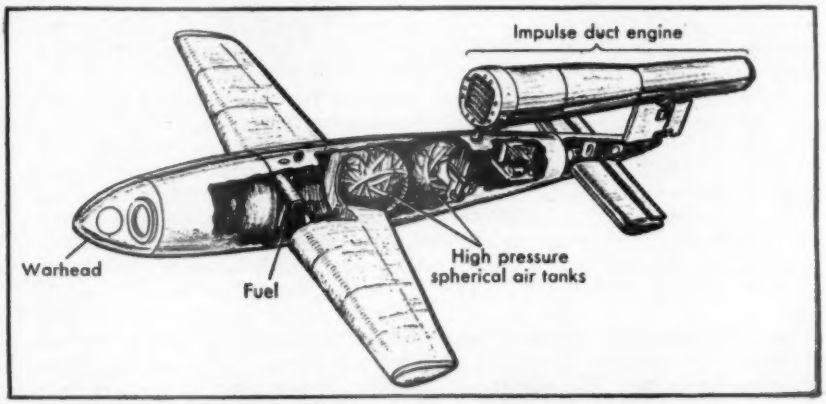
e robot motor is almost a flying rctor. It consists of a metal tube a valve-like shutter in front. Air g in cannot return and is ex- d by the ignition of low-grade ne and forced out the rear end form of a hot jet, providing pro- n. In this crude form it is ex- ly inefficient; it must be launched the air flow started. But given the benefit of technological development and refinement, the revolutionary principles of this greatly simplified powerplant have important possibilities for units up to 500 or 600 hp.

• **By Catapult or Rocket**—Launching of aircraft powered with units of this type might be accomplished by catapults or by rocket devices for assisted takeoff like those now in use on a number of our combat aircraft.

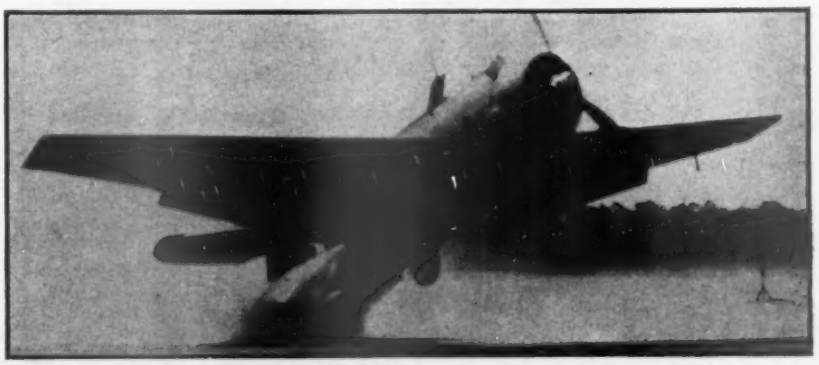
The rocket motor differs from the turbine-jet or impulse-duct engine in that it provides a series of powerful momentary impulses like a roman candle to help an airplane take off quickly. But it is only a booster and the plane must depend upon its regular powerplant for continued operation.

• **Handicapped in Flight**—Since an aircraft requires much more power for fully loaded takeoff than it does for level flight, it is handicapped throughout the flight by the excess weight of powerplant only partly used in normal flight. The advantages of assisted takeoff are therefore obvious. By the same token, the load of fuel or bombs that a plane can lift from a restricted takeoff area, such as a carrier deck, is greatly increased by an initial boost.

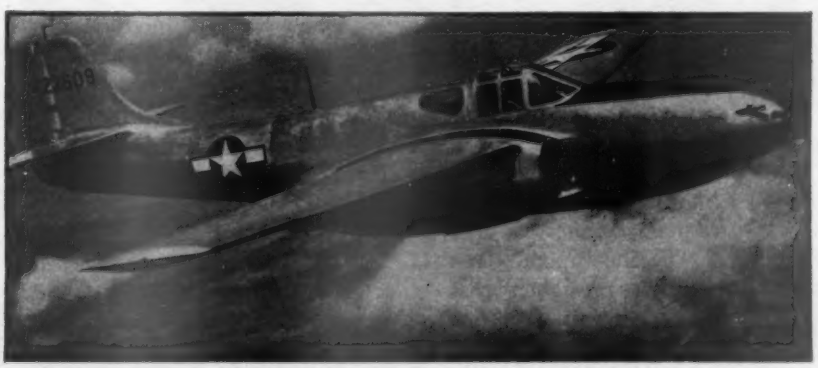
Air transport operators have been hesitant about adopting assisted takeoff for fear of discomfort to passengers



For tomorrow's planes—an impulse duct engine which the Nazi robot uses . . .



. . . the "jato" rocket type booster to give planes extra power in takeoffs . . .



. . . the turbine jet of Bell's Airacomet . . . or a combination of all three?

during the initial period of high acceleration. But the attractive increase in load capacity for long flights has prompted them to seek methods to provide some degree of boost without too much of a kick to—or from—the passengers.

In military and naval operations comfort comes after combat efficiency, and naval vessels have been equipped with catapults for aircraft launching for many years. Carrier operations and other naval activities, however, demand that each airplane have its own booster and hence the rocket motor of the "jato" type, developed by engineers at the California Institute of Technology and now produced commercially in standard 330-hp. packages by Aerojet, Inc., of Pasadena (illustration, page 19).

• **Pattern Emerging**—The powerplant pattern that seems to be emerging is something like this: the rocket—to boost aircraft into the air; the propeller, driven by a reciprocating engine, or gas turbine, or refined impulse-duct engine without a propeller for speeds up to 400 or 500 miles an hour and altitudes up to 25,000 ft. to 30,000 ft.; from there to, and ultimately beyond, the wall of compressibility, a pure turbine-jet powerplant.

This is the pattern as it looks today. But there is no place for closed minds in aviation technology. The whole picture may be different tomorrow.

Bottles vs. Cans

Glass and metal container makers expect stiff competition, especially on beer packaging. Paper threat is gaining, too.

Latest indication that the container industry is clearing its decks for postwar competition is the persistent—though steadfastly denied—report that the Glass Container Assn. has voted a $1,500,000 campaign to promote one-trip beer bottles. The glass industry doesn't expect to retain all of its war-gained business when metal containers are again unrestricted, but recapturing the beer bottle market would go far toward retaining present sales volume.

• **Lighter Weight**—Prompted by competition from beer cans, glass companies developed the one-trip bottle in 1939 (BW—Sep.23'39,p32) by designing out much of the glass that had fortified the old bottle against an average of 18 trips (sometimes 40 or 50). One-trip bottles, which weigh only 7⅞ oz. compared with 9¾ oz. for the earlier "steinie" and 12 oz. or 13 oz. for the time-honored long-necked bottle, were gaining general acceptance when WPB banned them, along with beer cans, to conserve manpower and materials.

For some time both containers been permitted for beer shipment the armed forces overseas. Rec WPB amended L-103-b to permit of beer in one-trip bottles (but n cans) to post exchanges and ship ice stores in this country.

• **Reason for Campaign**?—Outsi guess is that this may have prom the glass container people to follo this competitive advantage with association's reported promotional paign, but that definite action and nouncement must await a final Sup Court decision on the antitrust case pending against a large part of th dustry (BW—Sep.30'44,p22).

That same decision may clear the for mergers now said to be con plated in the glass business. T have already been other signifi shifts in the container industry. example, Anchor Hocking Glass C last May purchased Carr-Lowry G Co., whose production of small bo for medicinal uses will provide an market for Anchor Hocking clos

• **Owens Sells Can Plants**—More re is Continental Can Co.'s purchas the three can manufacturing pl owned by Owens-Illinois Glass Owens' acquisition of these plants 1935, when cans were beginning make inroads on the beer packag market, was known as "the fa hedge," although the plants didn't t produce beer cans and never have.

Trade talk about the sale harked b to a shoemaker sticking to his glass-minded men don't easily bec tin-minded, and vice versa. Nor i easy for newcomers to compete w established can manufacturers wh gigantic volume enables them to k profit margins low.

• **Not a Big Producer**—Hence it's surprising that Owens' can product never reached a dominant positi With National Can Corp. and Cr Can Co. (subsidiary of Crown Cor Seal Co., Inc.), Owens accounted 10% of total can sales, while Amer Can Co. and Continental together more than 70%, and numerous l concerns accounted for the other 20

Continental's purchase of the Ow plants is in line with a general ind try trend toward increased product of general line (nonfood) cans, whi incidentally, carry a higher profit m gin than packer (foods) cans. Hal dozen other deals within the past t years now give Continental a compl line of tin and paper containers.

• **New Tin Process**—Wartime develo ments in tin, glass, and paper are bou to sharpen postwar competition. tin, the outstanding factor is the el trolytic process of tinplating (BW Feb.14'42,p64), which requires abo

REIN-GUIDED SPRAY

On Philadelphia's Delaware River the Coast Guard demonstrates its new jet-propelled "floating monitor"—a small but effective fire-fighter that reaches normally inaccessible blazes under docks and piers. Driven by a water jet and guided by reins, this 116-lb. "craft" glides into place directly beneath the flames to discharge a heavy fog spray pumped at 150-lb. pressure by the boat. Produced by the Coast Guard under a patent license, the 4x2x1-ft. unit comes in kits equipped with enough hose and lines to permit it to operate 150 ft. away from its pump aboard the fire boat.

e-third the amount of tin formerly ed in the hot-dip process. Since the ce of tinplate represents about 60% can prices, this undoubtedly will per- t even greater economies.

Manufacturers emphasize, however, at they have not lived with the elec- lytic process long enough to know ere it can and can't be used. Acid oducts like canned tomatoes required heavier tin coating. Furthermore, sig- ficance of the method may be meas- ed in terms of the relative importance the can lines to which it is applied; example, 95% of general line cans be produced without using any tin.

Division of Output—Sales of the 60 embers of the Can Manufacturers In- itute, representing about 90% of the tal U. S. can industry, were divided is way in 1943:

cker cans	$182,000,000
eneral line cans	121,000,000
er cans	19,000,000
mplate oil cans	18,000,000

Can manufacturers expect to regain ost of the wartime business they lost glass and paper, once restrictions are moved. They point out that return of normal competitive situation will de- and use of the most economical con- iners and those which permit greatest oduction line efficiency—which, they aim, indicates tin

Nevertheless the institute last Janu- y launched a $1,500,000 advertising mpaign (BW—Oct.9'43,p82) to re- erate the virtues of the tin can.

Fewer Sizes—Major wartime develop- ent in the glass container industry standardization of sizes and shapes. his trend was well on its way even efore WPB crystallized it with stand- rds set in L-103 (BW—May23'42,p32).

From its 1940 production of 54,470,- 25 gross of glass containers (7,750,- 00,000 units) the industry had ex- anded 71% to 93,665,657 gross by 943, and this year expects to produce bout 102,000,000 gross. That is 107% f the industry's estimated capacity.

But, points out the Glass Container ssn., actual packaging capacity in- reased 135%, from an estimated 762,- 65 gal. in 1940 to about 1,795,873 al. in 1943, because of the standardiza- ion and minimum capacity require- ents established by WPB.

May Not Hold Out—Undoubtedly any of the economies of standardiza- ion will be retained by the glass indus- y. But glass men point out that one f their prime advantages is the mold- bility of their product. So when, after he war, a large-volume purchaser wants special design, what manufacturer will old out for standardization—particu- arly when the customer pays for the old?

Glass container manufacturers are well aware that many of the products packaged in glass for the duration will promptly return to metal containers when restrictions are removed.

Outstanding example is paint: The rade says that glass jars not only are less convenient than cans and subject to breakage, but make a not-too-attractive package on dealers' shelves when the pigment settles out of the oil.

• **The Outlook**—But glass men are confident of retaining certain items: sirup, for example, which uses 12% more glass containers now than in 1941. They may keep some of their war-gained coffee packaging business, which has experienced the same increase.

Only a small proportion of postwar motor oil is expected to remain in glass. And the industry is aware that the home canning jar market may have been pretty well saturated by the 4,400,000 jars sold in 1943 (nearly four times 1941 sales) and another 4,500,000 sold in 1944.

• **Glass for Fruits**—Total use of glass for packers' wares has increased 56% since 1941, and the industry hopes to hold about half of this increase. Even before the war some packers had adopted glass for packing fruits and vegetables (BW—Jan.24'42,p46)—notably California Packing Co.'s Del Monte brand and the United States Products Corp. Wartime directives forced others into it.

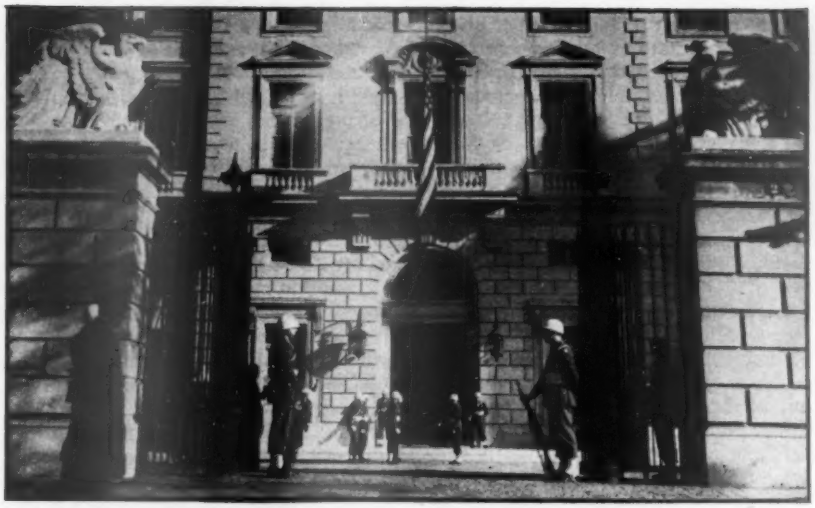
But there are some inherent difficulties: Only top-quality foods can be packed in glass, because the sight of less-than-perfect fruit in glass jars stiffens sales resistance. More significant is the cost differential. Del Monte is said to have reduced it to within 2¢ per No. 2 can of comparable products, this including added shipping costs for the heavier glass container. But even this margin is a handicap in a highly competitive market.

Actually, containers for fruits, juices, and vegetables take only a small part of the industry's output: estimated at 2,454,000 gross last year, compared with total glass container production of 94,500,000 gross.

• **Postwar Prospects**—A 1941 end-use breakdown shows where the industry can probably look for its major postwar markets:

	Gross of Containers	%
Packers' wares	18,840,000	27
Home canning	1,293,000	2
Dairy ware	3,243,000	5
Prescription and drugs	10,058,000	15
Chemical, household, and industrial	5,125 000	7
Toiletries and cosmetics	9,908,000	14
Beverages	20,941,000	30
Total	69,408,000	100

Paper containers will be a postwar challenger to both glass and tin in many fields. This more youthful industry gained so much new business during the last war that it was twice as large



OPEN HOUSE

Without fanfare, the U. S. embassy in Paris throws open its gates for business—diplomatic and commercial. Under Ambassador Jefferson Caffery, the staff prepares for a busy session once the bars are let down on travel restrictions, and business firms begin picking up their prewar commercial threads. With passports restricted to war business (BW—Oct.2'44,p7), only a few Americans so far are trading in Paris. In Washington—and in Paris—hundreds await the opportunity to resume old contacts.

at the end of the conflict than at the beginning. It can probably expect an equally large increase dollarwise following this war, although the percentage of increase will not be so great.

• **New Uses Sought**—Largest single expansion has been in production of cylindrical cartons, such as those used for package salt or oatmeal. The wartime cylinders, asphalt-impregnated and with metal ends, have been produced in enormous quantities for shell shipments, but producers are still seeking a peacetime product that can afford the luxury of such superpackaging.

Paper container manufacturers point out that if the war had lasted only three months, practically all the products that converted to paper would have returned to metal, but two years' experience has shown users what can be done with paper.

• **To Stay With Cardboard**—Some users have indicated their intention to retain their war package. One of these is a typewriter ribbon manufacturer who, even before the war, was getting restless about the high cost of his lacquered aluminum container. He plans to keep his present cardboard box after the war.

Another is a manufacturer of rubber faucet washers, who will continue using his present paper box instead of reverting to tin. But competition among manufacturers may force some products back into tin.

• **Not Close Yet**—Incidentally, the popular notion that paper packaging of frozen foods will challenge tin and glass packaging for processed foods is still a long way from fulfillment.

U. S. Dept. of Agriculture estimates indicate that the average per capita civilian consumption of frozen fruits and fruit juices in 1943 was only about 1.5 lb., while consumption of the same products packed in glass was 5.1 lb., and in tin, 21.1 lb. Per capita consumption of packaged vegetables for the same year was estimated at 3.5 lb. frozen, 12.2 lb. glass-packed, 54.5 lb. tin-packed.

Cargo by Airship

Goodyear asks CAB to fit dirigibles into postwar air commerce. Low freight costs, long hauls predicted.

With airline competition for the world airways growing keener every day, the lighter-than-air ship is maneuvering for a place in the postwar skies, basing its case for consideration upon claims of luxurious passenger accommodations and low ton-mile freight costs.

• **Goodyear Interested**—Goodyear Aircraft Corp. has signaled this ambition in alluring advertisements picturing the "Luxury Liner of the Future"—a dirigible complete with suggested jet propulsion—and in a memorandum filed with the Civil Aeronautics Board.

In the brief to CAB, Paul W. Litchfield, president of Goodyear Aircraft

Never having lost faith in lighter-than-air craft, Goodyear Aircraft Corp. buys double-page advertising spreads to point up its argument that the dirigible deserves its place under the postwar sun—not as an express liner, but as a luxury ship and long-range cargo carrier. Advances in light metal fabrication, and the use of non-inflammable helium are cited as reasons for a return to airships, with the illustrator dreaming up jet propulsion as a power unit. And the smooth landing of a Navy blimp on a carrier deck is reminiscent of almost-forgotten plans to spot floating islands on ocean air lanes to be used as refueling depots for planes and dirigibles.

BIG WIND

ucks, Son, you hain't never seen
nd till you been in a norther.
ke the time me and Slim Bartel
s drivin' down from Amarillo to
n Antone in my li'l ole jalopy.

arn't no gas rationin' then, but
run out anyways. Right spang
the middle of the prairie, 'thout
shack in sight.

ooked kinda bad to us. But all of
sudden it begun to blow. Come
tearin' straight from the North
ole.

Wa-all, Slim and me jes' opened the car doors and that there wind pushed us clean to Big Spring. Had the brake on, but goldarn if we didn't git a ticket fer speedin'.

• • •

When the boys in the barracks, the back room, or the outer office "shoot the breeze" it's just good sport, and facts are the only casualty. But the wind blows in a different direction when business decisions are to be made!

Then, *facts* are the very fabric of future plans. And facts, most often, are woven of sound *figures*. Because these figures must be accurate, economical, and on-the-dot, it's easy to understand why Management relies on Comptometer adding-calculating machines and modern Comptometer methods.

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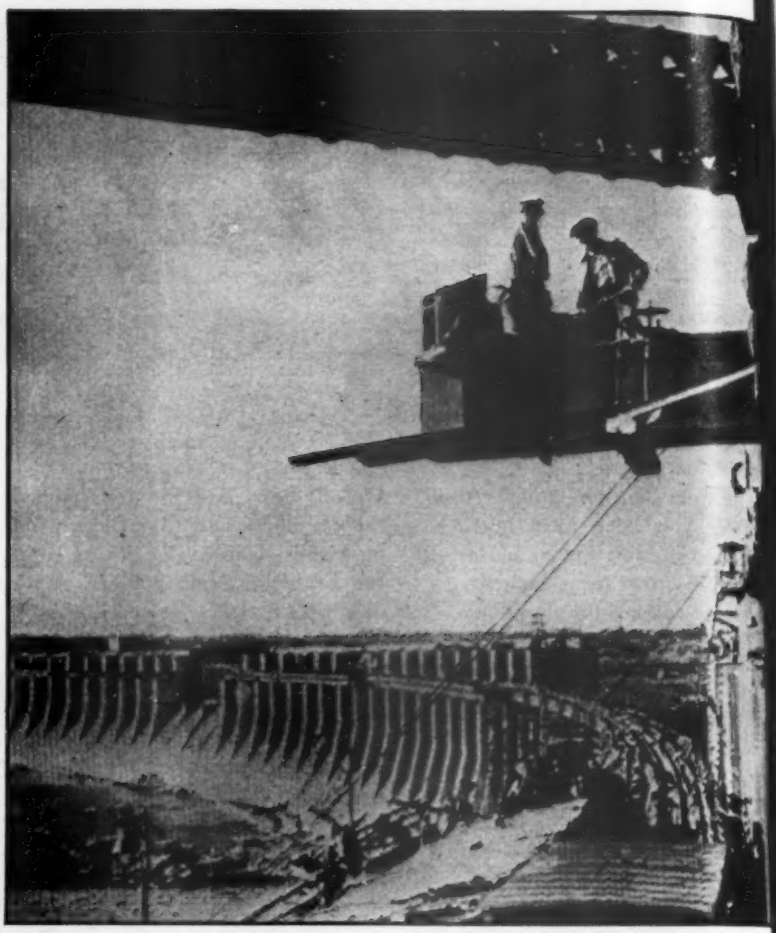

ON THE ROAD BACK

Well under way is the reconstruction work on Russia's huge Dneprostroi hydroelectric dam (BW—Sep.16'44, p26) which retreating Soviets wrecked in 1941 to deny its use to the Nazis. Estimated cost of repairs runs to $38,000,000, about one-third of which will go to International General Electric which is building nine 90,000-kva. generators at Schenectady, N. Y., for the dam. Another big share goes to Newport News Shipbuilding & Dry Dock Co., which is turning out the 100,000-hp. turbine for each generator. This equipment will replace that built by these two firms for Dneprostroi between 1929 and 1933. Financing of American machinery for the Dnepr River project will be done by Soviet Russia and not by lend-lease.

subsidiary of Goodyear Tire & Rubber Co., asked in effect that the board give full consideration to the usefulness of the airship.

• **Rates in Preparation**—Litchfield requested no specific routes, but cited the long cruising radius and the large cargo capacity of dirigibles. Goodyear studies, he said, indicated that the airship could more than match the airplane in per-ton-mile cost for long-distance travel.

The projected airships for postwar commerce would have a capacity of 10,000,000 cu. ft. of helium, about one-third larger than the U. S. Navy's ill-fated dirigibles Macon and Akron, and the German Hindenburg which was destroyed by an explosion and fire while landing on May 6, 1937.

Specific data on costs and tentative rates are understood to be in preparation, and Goodyear is confident that the future will see airships accommodating more than 100 passengers, not competing with the airplane in speed, but excelling it in luxurious comfort.

• **Airship's Assets**—To a large extent the blimps used by the Navy during the war have operated from mooring masts hundreds of miles away from their hangars. This ability to dispense with long paved runways is cited among the airship's assets.

There is some expectation that the

SIGHT!

THE BETTER your electric light bulbs, the more light you'll get at lower cost. So Sylvania Incandescent Lamps are made with but one thing in mind—to give you *more and better light at highest economy!*

THERE'S A NEW KIND of light that's helping win the war in thousands of plants. It's Sylvania Fluorescent Lighting—cool, glare-free, bright as a sunny spring day. Soon you'll enjoy it throughout your home!

HERE'S A COMPACT, war-working Sylvania Fluorescent Lamp dressed to travel into tight places. You'll be seeing its after-the-war offspring doing home duty in wall brackets, in closets, in boudoir and bath!

LIGHT MUST BE PLACED *where you need it—without waste!* That's why Sylvania designs fixtures to work with fluorescent lamps and accessories. They form a close-knit, *fully guaranteed* unit giving the most for your money in *usable light!*

SOUND!

THE SYLVANIA BRAND on a radio tube stands for only one quality *—the best.* Right now, Sylvania Radio Tubes have extensive war jobs, on land and sea. If your radio needs new tubes, see your Sylvania Serviceman. He will do his best to help you.

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OUT OUR WAY

DON'TCHA KNOW BETTER THAN T'REACH OVER A MACHINE WHEN IT'S RUNNIN'?
I DIDN'T REACH, I SLIPPED-- THERE AIN'T NO SPEEDI-DRI ON MY FLOOR!
TOO LATE
T. M. REG. U. S. PAT. OFF. COPR. 1944 BY NEA SERVICE, INC.
J.R.WILLIAMS

SPEEDI-DRI is a white, granular substance that's thirsty for oil and grease. Spread by hand without interrupting production and easily swept up with a stiff brush, it reduces porter-labor to the minimum and saves the cost of expensive scouring equipment. At the same time it does a *better* job, because it *absorbs* the oil and grease . . . even taking out years-old deposits, in time.

No matter how greasy a floor, it becomes slip-proof the minute it's SPEEDI-DRIed. This cuts costly accidents, saves man-power, and speeds production. In addition, SPEEDI-DRI saves work-shoes from oil-rot, brightens the plant, and improves morale. SPEEDI-DRI is non-combustible. It will not readily burn even when oil-soaked. It gives double the efficiency at a fraction of the cost of old-fashioned floor-cleaning methods. Write for the facts . . . and a FREE SAMPLE.

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West Coast—Waverly Petroleum Products Co., Russ Bldg., San Francisco 4, Calif.

SPEEDI-DRI
OIL AND GREASE ABSORBENT
UL

strategically located Navy blimp hangars might be leased to private interests after the war. They could be used as terminals for the projected airships without great modification. For the shipper of perishable bulk merchandise, the appeal of airships will be a speed three to four times that of the steamships, plus freight rates that, as projected, are low in comparison with air transports.

As a climax to its case, the airship can point to an ample supply of nonflammable helium, which, being a U. S. government monopoly, would give the nation an overwhelming advantage in any international competition.

• **Some Skeptics**—The resurgence of interest in lighter-than-air craft, after a series of dirigible disasters had destroyed whatever popular esteem they had won, may be credited to the Navy's use of airships in the antisubmarine campaign.

The Navy has released few details of the performance of the airships, but airship proponents say they proved the safety and regularity of operation under a wide range of conditions of visibility and temperature.

This opinion is by no means unanimous among Naval airmen, some of whom interpose strong reservations, pointing out that some blimps cracked up in winds of Force 5 or stronger.

• **Sustained Demonstration**—Litchfield, whose interest in airships goes back to 1910, never lost faith in them. In 1925, when interest in aeronautics was at a low ebb in this country, his company built a nonrigid ship of its own, to begin what was probably the most sustained demonstration in American industry.

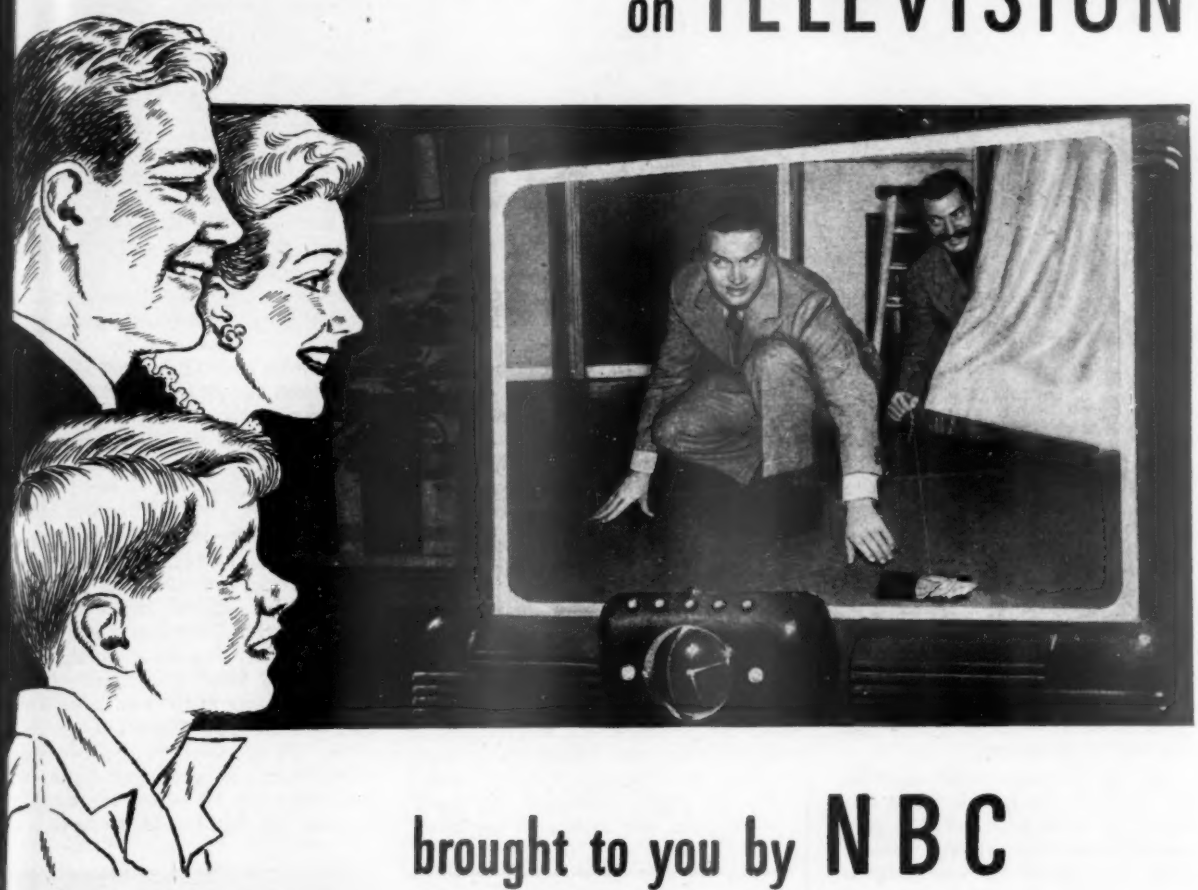
This first ship, the Pilgrim, was joined by five others by 1928. Until the outbreak of the war they had been operated in every state. Goodyear's records on this fleet show 4,000,000 miles covered in 152,000 flights, 450,000 passengers carried without injury.

• **Navy Takes Over**—The six Goodyear blimps were taken over by the Navy in March, 1942. By October, 1940, however, the Navy had ordered six ships of the K class, which were delivered by December, 1941.

Goodyear has built four sizes of lighter-than-air craft: the L's, trainers, 125,000 cu. ft. (same size as the Goodyear blimps); the G's, larger trainers, 195,000 cu. ft.; the K patrol ships, 425,000 cu. ft., major reliance of the Navy for submarine coastal patrol; and the M's, 725,000 cu. ft. for longer range patrol work.

• **Research Subsidy**—The M-1 is the largest nonrigid-type airship ever built. Its car is not a single cabin, as in previous airships, but three articulated cabins, to give freedom of movement in coordination with the flexible en-

Imagine Bob Hope... on TELEVISION



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Think how, on NBC Television, the amusing antics of America's greatest comedians... the zany adventures of Bob Hope, for example . . . could take place before your eyes in hilarious *visual action.*

Just picture how television programs from the studios of the National Broadcasting Company . . . where the nation's most popular sound radio programs now originate... are going to up the excitement of home entertainment.

At the present time, NBC has extensive television plans under way. With the cooperation of business and government these plans, after the war, will bring about vast NBC Television networks . . . networks gradually sprouting from Eastern, Mid-Western and Western centers and finally grouping together . . . forming coast-to-coast links to provide television for the whole nation's post-war enjoyment.

Popular-priced television receivers will bring to your home sight and sound programs up to the highest standards of NBC . . . television programs of the finest shows in this fascinating and improved field of entertainment.

• • •

Depend on NBC to lead in new branches of broadcasting by the same wide margin that now makes it "*The Network Most People Listen to Most.*"

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America's No. 1 Network

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VICTORY BEGINS ON PAPER

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But the bomb's target must be pinpointed, the bomb itself designed . . . on paper. For paper, man's peace-time servant, in wartime is a basic and formidable weapon.

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HAMILTON PAPERS

GOOD PAPERS FOR GOOD BUSINESS

velope. The outriggers, carrying two Pratt & Whitney Wasp engines, are attached to the center cabin.

Military quarters are interested in research on even larger craft, and the betting is that at least one dirigible will be built, probably with government subsidy. Such an airship would have ample range for the long haul to Africa and the South Pacific.

Jan. 1 Reshuffle

Except for revisions in 1945 rates and exemptions, withholding tax system will be same as in the past.

A date for every employer to scribble on his desk pad is Jan. 1, 1945—the day of the big reshuffle of the withholding tax system.

The Individual Income Tax Act of 1944 (the tax simplification law passed last May) prescribes a new set of rates and exemptions to take effect at the start of the coming year (BW—Apr. 29'43,p17). It's the employer's responsibility to see that the new scale of deductions is applied to every wage and salary payment after Jan. 1.

• **Meets Liabilities**—Object of the change in the withholding system is to make collections at the source coincide more exactly with actual tax liability, so that lower-bracket taxpayers won't have to make additional payments.

Once the new system is operating, collections at the source will approximately cover the full tax liability on earnings up to $5,000 for single men and $5,500 for married couples, provided the taxpayer has no outside income. Under present methods, collection rates match the actual tax rates only when wages are below $2,700 for a single taxpayer and $3,500 for a married couple.

For employers the Jan. 1 shift will be a headache, but it won't be anything like the migraine they had when source collection of the income tax started in July, 1943 (BW—Jun.19'43,p118), or when the short-lived Victory tax went into effect in January, 1943 (BW—Nov.28'42,p22).

• **Advance Planning**—Planning for the change-over will have to begin about two months ahead of time. Employers who haven't already received instructions from the Bureau of Internal Revenue can get the various forms and regulations from the nearest regional office.

The employer's best guide for the withholding tax is Treasury Circular WT—Revised 1944. This lays out all his duties, lists the deadlines for filing reports and making remittances, and gives advice on doubtful points. It includes the official tables for wage-bracket withholding and gives the formula that may be used as an alternative.

• **The First Step**—The employer's first step in shifting to the new system is to pass out to his workers Form W-4 (Rev. 1944), which is the employee's withholding exemption certificate. This is a single slip on which the employee declares the number of exemptions he

OPA'S PAPER WORK

A mechanical paper shredder provides foolproof cancellation for the 50 tons of used ration stamps which roll into OPA's big regional verification office at Cleveland each month. Collecting the distribution currency from 2,250 banks in five states, this 17,000-sq.ft. center is headquarters for black market investigation in that area. Among its worst headaches are the 40,000 counterfeit gasoline tickets that are turned up monthly by ultraviolet lamps which sort the good from the bad (BW—Mar.18'44,p19). Represented by a month's collection of coupons are: 356,000,000 gal. of gas; 153,000,000 lb. of sugar; 2,507,000 pairs of shoes; processed foods, meats, and fats worth a total of 956,000,000 points.

EW TEXTILE MEDAL

st winner of the Olney medal, ognizing achievement in textile emistry, is Dr. Louis A. Olney for om the award is named. Sponsored by the American Assn. of Textile Chemists & Colorists, the medal (above) honors Dr. Olney for his work at the Lowell Textile Institute of which he is now professor emeritus of textile chemistry and dyeing.

claiming. The employer doesn't have verify his claim, although if he knows s false, he is supposed to report to the reau.

The Treasury has worked up a small flet explaining the new deduction sys- m and describing the way to claim ex- ptions in question and answer form. will supply this to employers for dis- bution at the time they hand out the emption certificate blanks.

Few Exemptions—Form W-4 should given to workers sometime in No- mber. Completed copies are supposed be returned to the employer before c. 1. Unless an exemption certificate s been filed, the employer must make e maximum deduction from an em- oyee's wages, assuming that he is en- led to no exemption.

Generally, all employees are subject withholding regardless of the services ey perform. The main exceptions are ilitary personnel, domestics, casuals, ricultural labor, and ministers of the spel.

New Deduction Table—Once an em- oyer gets his exemption certificates file, his next step is to set up his pay- ll records so that he can apply the w deductions. To estimate the de- uctions he can use either the tables the formula, both given in Cir- lar WT.

The new deductions apply to all wage d salary payments made after Jan. 1, gardless of whether or not they repre- nt compensation for work done in the receding year.

Monthly Deposits—Monthly collec- ons of the withholding tax must be deposited by the tenth day of the fol- lowing month in a depositary bank au- thorized by the Treasury if they amount to more than $100.

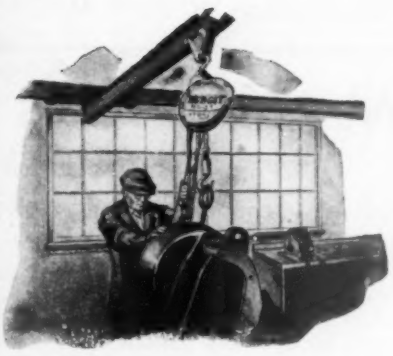
Within one month after the end of each calendar quarter (that is, on Apr. 30, July 31, Oct. 31, and Jan. 31), the employer must file a return with the Treasury (Form W-1) showing collec- tions during the quarter. Along with this he must remit depositary receipts or cash for the amount collected.

• **Statement to Employee**—By Jan. 31 of each year, he must give employees their copies of Form W-2 (Rev.), a brief statement of wages paid and taxes withheld during the previous year. This is made out in triplicate. The employee gets two copies, one of which he uses in making his tax return to the Treasury. The third copy (From W-2a) goes di- rect from the employer to the Bureau of Internal Revenue.

Along with the triplicate of Form W-2, the employer must file with the bureau a reconciliation (Form W-3) matching up his four quarterly returns for the preceding year with the totals of the statements to employees. This need not be accompanied by an itemized list, but the Bureau wants to have some- thing like an adding machine tape that shows each entry individually.

• **Report Forms Unchanged**—Except for the changes in rates and exemptions, this is the same withholding system that employers have been following.

Forms for the exemption certificates and the statement to employees have been revised, but the reporting forms remain unchanged.



One Hour Ago!

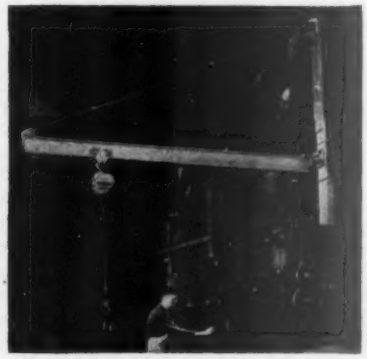
All parts of this underhung bridge crane, except the I-Beam were in a box one hour ago that bore the label 'Budgit' Crane Assembly. This man built his own crane in one hour using a wrench only! He did not drill one hole nor machine a single part!

This is the modern, revolutionary way to acquire a crane at low cost. Even transportation costs are low, for the heavy I-Beam may be pur- chased locally.

'Budgit' Crane Assemblies—jib, top-running or underhung bridge cranes—come with such simple in- structions that any competent workman, not necessarily a skilled mechanic, understands them instant- ly and can follow them perfectly.

On proper priority, we will make immediate shipment of a 'Budgit' Crane Assembly. Your new crane can be working for you the very day you receive it.

Let a 'Budgit' crane—jib or bridge —increase your war production now and, later, meet your peacetime competition. Write us or our nearest distributor for Bulletin No. 355.



MANNING MAXWELL & MOORE INC. TRADE MARK

'BUDGIT'
Crane Assemblies
MANNING, MAXWELL & MOORE, INC.
MUSKEGON, MICHIGAN

Builders of 'Shaw-Box' Cranes, 'Budgit' and 'Load Lifter' Hoists and other lifting specialties. Makers of Ashcroft Gauges, Hancock Valves, Consolidated Safety and Relief Valves and 'American' Industrial Instruments

Machine Tools May Be Eased

WPB proposal would permit machine tool makers to book delivery schedules 60 days ahead with guarantee that military won't cancel them. Industry faces paradox of surpluses, shortages.

All reconversion planning hinges on a big "if"—machine tools. No durable goods manufacturer can schedule civilian goods production until the tooling up of his factory is at least a definite date. And setting dates in the machine tool industry—with the uncertainties of military orders—is hazardous.

• **Suggested Remedy**—WPB now has in the works a proposed solution: a 60-day guarantee against cancellation of delivery dates on the output of machine tools for use in producing civilian goods.

This is how the plan would work: The military, if it should move in on the civilian portion of machine tool output, say on Nov. 15, couldn't knock down any civilian contracts except those with specified delivery dates of Jan. 15 and beyond.

This concession is what the auto industry, which failed to get WPB approval for preferential status in reconversion (BW—Oct.7'44,p18), really wants—assurance that its reconversion plans would not be upset overnight.

• **One-Fourth Available**—About 75% of current machine tool output is earmarked for direct war production jobs, the remaining 25%, for tooling up for civilian production. WPB isn't expected to upset this relationship any time soon.

But if trade reports are correct, WPB does intend to remove all rating control from the civilian portion and thus permit the machine tool builders, if they can, to set up solid delivery schedules for 60 days ahead.

• **Reason for Hurry**—If this program is carried through, the auto industry would have to get its orders booked by the machine tool builders ahead of other buyers, to get the jump on reconversion.

Each machine tool builder is expected to have considerable leeway. If he has no military orders booked, under the reported plan, he could devote 100% of his capacity to building tools for civilian use, provided delivery in each case was scheduled within 60 days.

• **Demand Fluctuates**—Last year, WPB gave out word that tooling up for war production had been pretty well taken care of. Machine tool builders released large numbers of skilled workers, and scurried around picking up subcontracts for precision machine work, such as gears, radar parts, aircraft parts, and metal ammunition parts. These subcontracts occupy about 20% of the industry's productive capacity. Some postwar diversification seems to be indicated, and it may be a stabilizing influence.

But soon after WPB's statement to the effect that the U. S. for the first time was all tooled up to make maximum use of its resources, new demands for machine tools to accommodate production of more heavy bombers and more heavy guns arrived (BW—May 20'44,p16). On Sept. 1, the backlog of unfilled orders was $195,818,000, or about two months' production at the industry's all-time high rate.

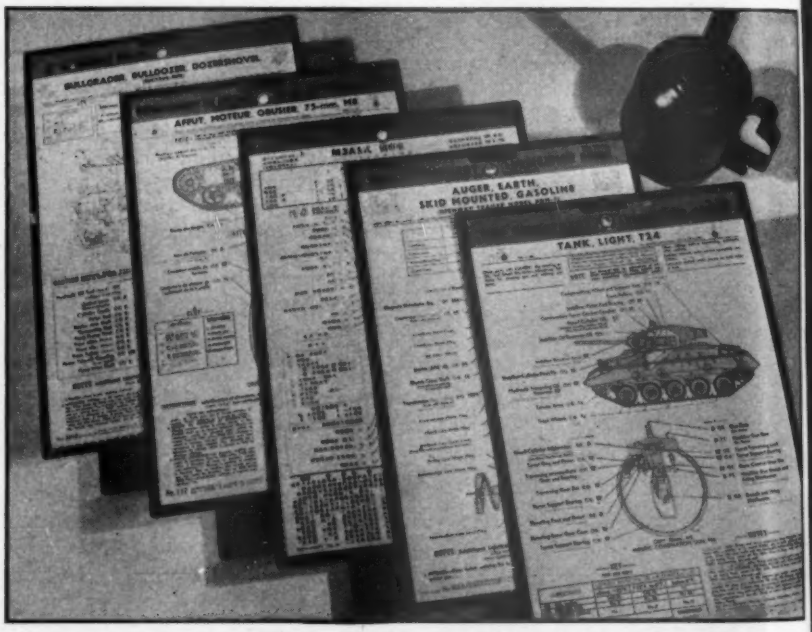
• **Some Swapping**—Machine tool men say this backlog is spread very unevenly over the industry, and that somewhat less than one-fourth of it represents reconversion orders.

Government sales of surplus machine tools, of about $28,000,000 a month (against current monthly output of new tools of less than $40,000,000), include some swapping from one war contractor to another, according to trade reports, and for that reason much of it may come right back to the government's surplus sales agency. Also, some of these surplus tools are sold for junk.

• **Wide Range in Output**—Relatively a small industry of 250 small and medium-size companies, machine tools occupy a key position; they are the implements of mass production. Their output dropped from more than $186,000,000 in 1929 to less than $30,000,000 in 1933; it jumped from $218,000,000 in 1939 to $1,321,000,000 in 1942, it eased off to $1,180,000,000 last year, and this year is not expected to exceed $500,000,000.

Plant expansion in the machine tool industry during the war has been estimated at $155,000,000.

Machine tool builders face the fact that they have added 908,000 machine tools to the 792,000 estimated to be in this country at the time of Pearl Harbor, now five times as many as in 1929. But, in the total of 1,700,000, some 645,000 are more than 14 years old, a fair retirement age, and others have been



MECHANICS' MEMOS

Standard Army maintenance charts, printed in a variety of languages, accompany American-made war machines that are assigned to the various Allied forces. Thus a Chinese, Russian, or French mechanic can easily determine a vehicle's lubrication needs by referring to the card attached to it. These charts, prepared by Chicago's Chek Chart Co., are made of durable materials which are protected from oily fingers and moisture by a covering of Lumarith plastic made by the Celanese Celluloid Corp.

How to Keep Well Posted...

...ON ALL ACCOUNTS!

Specify SUNDSTRAND for Speed!

u are right
to the minute...
all payroll details...
hen you give the job
Sundstrand.

ndstrand works fast
computing, at recording.
ves minutes
here they count most.

ese minutes add up
to thousands of hours...
luable working hours
ved for many firms.

ndstrand Accounting Machines
the *entire* job...
t just part of it.

Each machine makes available
Several clerks
For other essential duties.

Anyone can quickly attain
Operating proficiency.
The machine has a simple
"10 Figure Key" keyboard
And many automatic features.

Call Underwood Elliott Fisher
In your town...
And learn how to save
Important time and money
In your Payroll Department.

••• ON PAYROLL RECORDS

Sundstrand posts, computes, and prints each check or pay envelope . . . and at the same time writes your payroll summary and employee's earnings record.

All entries are completely visible. Gross pay and net pay amounts are automatically computed . . . column totals automatically printed.

••• ON GOVERNMENT REPORTS

The yearly- and quarterly-to-date earnings are automatically computed for all tax purposes. On Social Security taxes, the machine automatically exempts all yearly earnings over $3,000.

••• ON WAR BOND LEDGERS

Each employee's War Bond account is kept up-to-date, with each payroll deduction and amount "to go" automatically computed . . . and every resulting purchase automatically recorded. The employee-list of bond purchases is automatically counted and totaled.

* * *

Sundstrand Payroll Accounting Machines are available subject to War Production Board authorization.

Our factory at Bridgeport, Connecticut, proudly flies the Army-Navy "E" with star added as a second citation awarded for the production of precision instruments calling for skill and craftsmanship of the highest order...

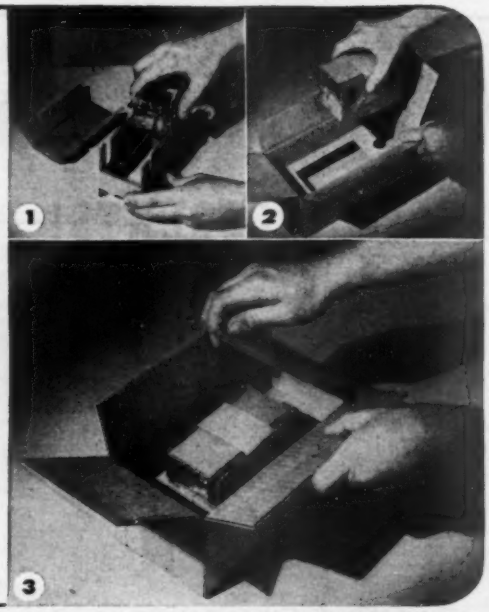
Save the Seconds and You Save the Day—

Underwood Elliott Fisher Company

counting Machine Division • *One Park Avenue, New York 16, N. Y.*

Condition on Arrival—

THAT'S WHAT COUNTS!



PHOTOS—WESTON ELECTRICAL INSTRUMENT CORP.

. . . and doubly so when safe arrival is combined with packaging economy, as illustrated in the wartime packaging of electrical instruments vitally needed in the manufacture of aircraft and other essential fighting equipment.

These instruments, so finely adjusted that moving parts are mounted on jeweled bearings, must be packaged to reach destination in perfect condition, else hair-line accuracy is destroyed. To assure customer satisfaction, to reduce damage in transit, and to insure a more profitable operation . . . the manufacturer set "safe arrival" as their packaging goal.

Ten years ago Hinde & Dauch Package Engineers were given the assignment of solving Weston Electric's intricate packaging problems. Result? Safe arrival was achieved to the extent that *damage in transit became negligible.* In addition, *reduced packaging material costs and lower freight charges,* effected by use of lighter boxes, provided attractive savings.

This is but one of H & D's many packaging achievements . . . an indication of how *your* packaging problems can be mastered. Don't wait—let H & D packaging experts help you plan packages *now* that will protect and promote your future products.

Tells How to SEAL Corrugated Shipping Boxes

If packaging is to do a *real* job for you, *proper sealing* is one of the important operations that can't be overlooked. Remember, *packages are no stronger than their seal.* In the H & D Little Packaging Library Booklet, "How to SEAL Corrugated Shipping Boxes" you will find scores of sealing tips that insure against damages in transit. For your copy write The Hinde & Dauch Paper Company, Executive Offices, 4461 Decatur St., Sandusky, Ohio.

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BUY BONDS, BONDS . . . AND MORE BONDS

For postwar packaging . . better see H&D

HINDE & DAUCH

AUTHORITY ON PACKAGING . . . CORRUGATED SHIPPING BOXES

BORED CHARLESTOWN

If the Statue of Liberty ha walked down the main street o Charlestown, Ind. (pop. 958), th townsfolk could have been littl more surprised than they wer when the U. S. government, with out advance notice, built a $100, 000,000 powder plant near th town in 1940 (BW—Nov.2'40 p26).

But after $14,000,000 mor had been expended in building a powder bag loading plant, nothing that could happen from then on could possibly surprise Charles town.

So last week, when the govern ment announced that it will en large the Charlestown powde plant at an estimated cost of $28, 000,000 to manufacture specia double-base rocket powder, Char lestown merely uttered a bored "ho hum" and observed that everything happens to Charles town.

To give further substance to the observation, Charlestowners nonchalantly cited the Oct. 17 decision of the government to build a new 75,000-ton capacity sulphuric acid plant—in Charles town, of course.

ruined by accidents or through abu

• **Outlook for Industry**—Reconversi and postwar sales prospects of the dustry, aside from the threat that plus war production tools may flood market, depend in part upon the di sion of manpower to the making of vilian goods, the improvements build can make to render existing machi obsolete, and the export market.

Export possibilities can hardly be sessed now. By 1945, about 194,0 machine tools, worth $350,000,000, have been shipped abroad for war p poses, mostly through lend-lease.

• **Foreign Prospects**—Russia got lion's share of these war exports, 48.8 but needed most, and remains the b prospect for future U. S. machine t exports. United Kingdom took 40.6 Australia, 5.9%; India, 2.6%; and others, 2.1%. France needs machi tools, but conceivably might get th from Germany, in partial payment war indemnities.

With American metalworking pla more than fully equipped, the build see no more than a partial solution their postwar problem in improved signs, making tools semiautomatic.

In addition to the fact that pres machines may be perfectly adequa

iautomatic combination machines have diminished desirability for the ker of articles subject to frequent radical change.

ome Improvements—The appeal is in reased output with less-skilled labor, uced rejects, and longer tool life. Hydraulic, pneumatic, and electric trols already have been announced. hers are on the way. One of the larg- builders of turret lathes is expected n to reveal an automatic electrical ret cycling.

One important development to come of the war is high-speed milling. h peripheral speeds advanced ten to times. These speeds are requiring esign, to obtain heavier bases, faster tors, and new cutting tools.

Resistance Noted—Some large buyers tools are hesitant about buying the h-speed mills, equally reluctant to a machine that may soon be obsoles- t.

All these indexes of a postwar lean iod lend fervor to the industry's e that it will fare better in future ntract renegotiation than it has in past.

Its position is that OPA had set ceil- s on machine tools long before Con- ss passed renegotiation legislation, that a portion of the profits there- der simply represents earnings that uld have been made over the next ten rs had not war production antici- ed industry's demand and saturated postwar market for machine tools.

Taxes Cut Deep—Relative expansion the industry was far greater than st others. Hence the excess-profits bit deeper, until the industry average s an assessment of 73% of 1942 earn- s before renegotiation.

The thin layer of fat that's left must plement the diet through the next ley in the production chart. The last ewar dip ran ten years.

VIATION GOES TO COLLEGE

Colleges and universities may be ma- r customers for the government's post- r surplus of aviation equipment, ac- rding to a survey conducted by Bendix iation Corp.

Of the 455 institutions of higher ucation which answered the ques- nnaire, 307 are making plans for aching postwar courses in aviation. me 237 now teach some aspects of iation, and of these 212 are planning continue or expand their curricula ter the war. In addition, 95 colleges hich do not now teach aeronautics are anning to establish postwar courses.

The surplus property disposal law akes educational institutions preferred stomers for "appropriate" govern- ent-owned surpluses.

"THEY DON'T COME ANY TOUGHER!"

PROVED AND IMPROVED FOR 50 YEARS

KELLY Springfield TRUCK TIRES

MANY OPERATORS, who find it necessary to load trucks above original rated capacity, have put on larger tires to compensate. But they failed to oversize the rims. So the larger tires are only partly efficient. By putting wider rims on, many operators now find tire life increased 20% to 30%. Wider rims pay dividends in longer tire service.

THE KELLY-SPRINGFIELD TIRE COMPANY, CUMBERLAND, MD.

BUY BONDS — FOR A SAFE RETURN

GET TO KNOW INDUSTRIAL MAINE

● Yes, Maine is an industrial State, with a diversity of industries that is a revelation to those who think of Maine only as "Vacationland."

● Maine is famed for the excellence of materials and manufactures that range from toothpicks to battlewagons. None produce better—

BOOTS, SHOES AND SHIPS
NEWSPRINT, PULP AND CELLULOSE
PAPER BOARD AND FINE BOND
WOOD TURNINGS, PLASTICS AND PLYWOOD
FRESH AND PROCESSED VEGETABLES, POTATOES AND SEAFOODS
SPORTS CLOTHES, TACKLE AND CANOES
COTTON AND WOOLEN CLOTHS
BRICK, CLAY AND STONE
METAL FABRICATIONS AND MACHINE TOOLS
FINISHED TEXTILES AND CLOTHING

● Industries large and small have located here because of the availability of raw materials or the nominal cost and abundant supply of power.

● Others because of the unequalled purity of our natural water which makes for economies and perfections in the processing of many finished goods.

● All value the manual craftsmanship of our workers, their native resourcefulness and ingenuity, their quick adaptability to new manufacturing skills.

● In the new day, with the many new products which industries are already blueprinting, these factors will be basic to the determination of plant sites, or branches for specialized operations.

● This book describes in detail the many advantages of locating your new business home in the State of Maine. We'll gladly send copies to all your interested executives and offer the personal help of our Industrial Service men to explore with you possible locations here in Industrial Maine.

MAINE DEVELOPMENT COMMISSION
INDUSTRIAL SERVICE
ROOM B
STATE HOUSE
AUGUSTA, MAINE

Calling All Taxis

Reduction of nonrevenue miles in taxicab operations is sought through use of two-way radio system in Cleveland.

Taxicabs equipped with two-way radio communication (BW—Jun.17'44,p38) began operation in Cleveland last week, with the eventual goal of saving a substantial part of the billion "dead miles" which it is estimated the taxi fleets of the nation travel each year.

● **Two Cabs Equipped**—The Cleveland experimental installation (under a 90-day license by the Federal Communications Commission) has a 15-watt fixed transmitter, W8XAI, and two cabs equipped with compact 15-watt mobile transmitters, in the frequency modulation band, mounted in the luggage compartment.

The stationary transmitter is atop the Union Commerce Building, the city's third highest (350 ft.), giving known coverage of the city and its suburbs. Actual dispatching of the cabs will be done by wire line remote control from the Yellow Cab Co. dispatching office.

● **More Permits Sought**—In the present experimental installation, each broadcast is heard by both cabs, but this doesn't mean that all cabs will hear each broadcast when the entire fleet of 430 units is equipped because plans are being made for preselection of cabs in smaller units. There will be no inter-cab communication.

Radio frequencies for similar installations by a number of other companies in other cities, of which Philadelphia the largest, were sought before the FCC this week by Cab Research Bureau, Inc., an agency of the National Assn. of Taxicab Owners.

Radio engineers are watching the Cleveland experiment with keen interest, regarding it as the forerunner of an industry with a ready-made market. The more obvious applications for a similar system include physicians' automobiles, ambulances, express services, railroad utility repair crews, and industry and businesses with branch offices.

● **Faster Service Expected**—In support of its plea for allocation of frequencies to taxi fleets, Cab Research will cite that 2,642,741,920 mi. traveled in 1943 by the nation's 48,464 taxicabs, with a gross revenue of $558,108,215, as compared with $537,000,000 for street railways and $544,300,000 for motor buses.

In addition to the saving of "dead" mileage, incurred when drivers must drive to a telephone call box from each trip, public advantages are seen in better and faster service and adaptability to meet emergencies.

SUBURBAN CABBIES IRKED

Taxicab operators in big city suburbs have a standard puzzle—return loads. This has been particularly difficult for suburban taxi operators whose vehicles carry passengers into Chicago because a contract ordinance between the city and the Chicago taxicab companies makes it impossible to license drivers of suburban cabs. Hence, the suburban driver may not legally pick up a load in Chicago.

Cabs from Evanston, the sizable city that adjoins Chicago on the north,

Posing with Cleveland's first taxicab experimentally equipped with two-way FM radio communication are (left to right): L. W. Johnson, secretary and executive director of the National Assn. of Taxicab Owners; Mayor Frank Lausche; J. T. Smith, president of the Yellow Cab Co.

Here's Tomorrow's Dinner

TONS OF FOOD ON A FRUEHAUF TRUCK-TRAILER

The map shows the location of the Salley warehouses and the routes covered by the Trailer.

THIS TRUCK-TRAILER load of groceries will be 300 miles away by morning — on the grocers' shelves ready for tomorrow's dinner.

The Salley Grocer Co. operates warehouses in Bernice and Shreveport, Louisiana . . . and depends on this Truck-Trailer to bring food products from New Orleans . . . 300 miles away, and from Memphis . . . a distance of 285 miles.

Besides making these overnight runs with 45,000-pound loads, the Trailer makes straight-to-the-door deliveries to stores on the route.

Because of the narrow margin between cost and selling price on most grocery items, the loads carried have to be as large as possible. Yet the equipment must be kept within the size and weight limits of the three States through which it runs. A Truck-Trailer is the answer. The Trailer hauls far more than the truck that pulls it is designed to carry—yet by distributing the load over a greater length and more axles, there is no more weight per axle . . . thus meeting rigid State restrictions.

After more than 300,000 miles of trouble-free service, officials of the Salley company will tell you that without the advantages of Trailer hauling they couldn't give their present service to their customers. No other transport method is so practical.

The Salley experience is typical of thousands of others . . . in more than 100 different lines of business . . . where Truck-Trailers have proved they can do work that couldn't be done as well, if at all, by any other method.

World's Largest Builders of Truck-Trailers

FRUEHAUF TRAILER COMPANY • DETROIT

Service in Principal Cities

BUY WAR BONDS AND STAMPS

FRUEHAUF *TRAILERS*

"ENGINEERED TRANSPORTATION"

MOTOR TRANSPORT WILL GET YOUR JOB DONE! If you aren't using truck transportation, have you ever challenged your shipping costs and over-all efficiency with the job that professional haulers can do for you? The fact that the for-hire motor transport industry has grown so rapidly is indicative of what others think of its services. Why not at least get the facts and stack them up against your own records?

GET RID OF 'EM

Smoker's
B-B JEEBIES
(BITE and BURN)

Make *your* pipe-smoking *ALL* pleasure. Fill up with Country Doctor Pipe Mixture. Avoid B-B JEEBIES (Bite and Burn) which lurk unseen in ordinary tobaccos. Country Doctor's extraordinary blending experience, the skillful selection of the choicest tobaccos plus the perfect moistening agent . . . make possible this exclusive blend. Try Country Doctor Pipe Mixture. You'll like it.

Country Doctor
Pipe Mixture

25¢
A Product of Philip Morris

PLEASURE BY THE PIPEFUL
If your dealer doesn't have it—write Philip Morris & Co., Ltd., Inc., 119 Fifth Ave., N. Y.

M-20C

This Oster Motor
gives you smooth performance on many aircraft and blower installations . . . saves weight, too!

Here is a dependable fractional horsepower motor with features that result from over fifteen years' experience in building this type of quality motor. Its light weight, space-conserving size, and dependability make it ideal for aircraft and blower installations. It may suggest itself as the answer to the motor problem in your peacetime product. You can depend on Oster motors to live up to the world-wide reputation of pre-war Oster appliances, and to deliver results that add to the prestige of your product. Let us help you fit this or other Oster motors to your requirements.

Oster FRACTIONAL H.P. ELECTRIC MOTORS

John Oster Mfg. Co.
Department B-20 • Racine, Wisconsin

have been familiar in the Loop. Late last month, the Office of Defense Transportation decided to enforce in the Chicago area one of its nationwide rules. For 16 months ODT has prohibited use of a cab from one city to another in which the out-of-town cab is by ordinance forbidden to pick up passengers to be carried back to its home town.

Upon ODT's ultimatum, Evanston's 100 cab drivers promptly walked off the job. After a three-day strike, the hackers last week again took out their cabs. They are seeking relief through a petition to the ODT at Washington, under the provision for relief in cases of undue hardship.

Pinch in Sugar

Small retail candymakers and bakers close their stores at times to await the arrival of more raw materials.

A sign was posted last week on a closed candy shop in Chicago: "No sugar. No candy. No work. Another vacation. Pretty soft, eh?"

The worst pinch on production and profits for lack of sugar (BW—Sep.16'44, p28) probably has been among small retail businesses, particularly candymakers and bakeries. The typical large producer had the foresight—and capital—to anticipate his needs and get advance commitments from suppliers.

• **Sugar for Soldiers**—Small local business usually must depend on hand-to-mouth buying from local suppliers. Big plants with war orders get enough sugar, because Washington sees to this.

Regulations limit candymakers to 80% of the sugar they used in 1941. Smaller operators complain that the best they can average is only 70%, and they can't get even that much during canning season. To care for government orders, the candy industry was allotted 1,006,646,000 lb. last year, as against 947,665,000 lb. in 1942.

• **Shut by Shortage**—But neighborhood producers of candy say the extra sugar did not trickle down to them. Many of them had to close their stores for a day or two every once in a while until more raw materials arrived.

Bakers are subject to the same limitation—80% of 1941. Small bakers feel they are discriminated against by being lumped with big bakers, because retail bakery business is heavy in sweet goods, while large bakeries tend to be predominantly bread makers.

• **Popular Fruit Cake**—Retail bakers' volume is estimated as two and a half times greater than it was in 1941. Demand for fruit cake for mailing to ser icemen overseas forced many shops bake five times as much as usual.

To stretch their sugar, most bakeri ice only the tops of cakes. Inevitably ba ers have tended to put their precio sugar into goods that require the le sweetening, or that carry the most profi or both.

• **35% Closed Down**—Despite the sugar-saving maneuvers, many reta bakeries have to close for one or tw extra days weekly. Of 280 retail bakeri in Milwaukee, 100 were found closed f such a holiday on one mid-October da

SUGAR BEET SUBSIDY

A subsidy program to compensat processors of sugar beets for increase production costs in handling the 194 crop has been announced. Commodit Credit Corp. will pay up to 12½¢ a cw to offset the increase in costs over th base 1941 crop.

Processors have long complained o rising costs and have sought governmen assistance. They claim that 1943 pro duction costs per bag were 23.4% highe than in 1941 (BW—Oct.28'44,p38).

In addition to the straight subsidy CCC will absorb a portion (up to 12½ a cwt.) of the amount by which a proc essor's 1944 production costs may ex ceed net proceeds from the sale of th 1944 crop sugar.

EASY TO PUSH

Weighing only 30 lb., a wheelbarro made of magnesium is easily lifted b a girl. Part of a display by Hills-M Canna Co. at a Chicago exhibit, th carrier represents a comparatively ne field for once-expensive light meta

"Bring on your New Ideas!"

Your best laid post-war product plans can take form and substance only through the genius of that winning combination, the American workman and his job-engineered tools. Fresh from their triumphs of wartime production, they'll be ready, come V-Day, to bring your new ideas to life.

Many new materials and combinations of old ones, born of stepped-up wartime research, await skilled fabrication by these craftsmen. New or old, all materials must be bored, sawed, planed, recessed, decorated, assembled . . . fashioned with endless variation.

This means more need than ever for Stanley Electric Tools, both standard and specialized – to save the workman's time, increase his earnings, lower the cost of your finished products. Inherent in every one of these electrically powered tools is the quality and performance which have made STANLEY the greatest name in tools.

Equally important for the making of things to satisfy America's war-cumulated wants are Hand Tools, Hardware, Strip Steel, Metal Stampings, Industrial Finishes, and Steel Strapping . . . all bearing the name STANLEY. The Stanley Works, New Britain, Connecticut.

LOOK FOR THIS TRADE MARK WHEREVER AMERICA IS BUILDING ANYTHING

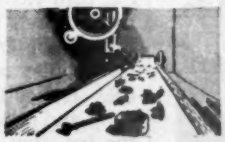
STANLEY

TRADE MARK

STANLEY HARDWARE
For doors, windows, cabinets, garages, screens, industrial and commercial openings.

STANLEY CHEMICAL
Lacquers, enamels, synthetics and japans for industrial finishing.

STANLEY STEEL
Hot and cold rolled strip steel. Standard analysis, special analysis and alloys.



STANLEY METAL STAMPINGS
Formed or deep drawn parts made to order. Special Hinges.

STANLEY TOOLS
Wood and metal working hand tools for carpenters, masons, mechanics and hobbyists.

STANLEY ELECTRIC TOOLS
Portable electric drills, hammers, saws, grinders, metal shears and screw drivers.

STANLEY STEEL STRAPPING
Shipping container reinforcement. Car Banding. Tools for application.

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A Wood Alloy

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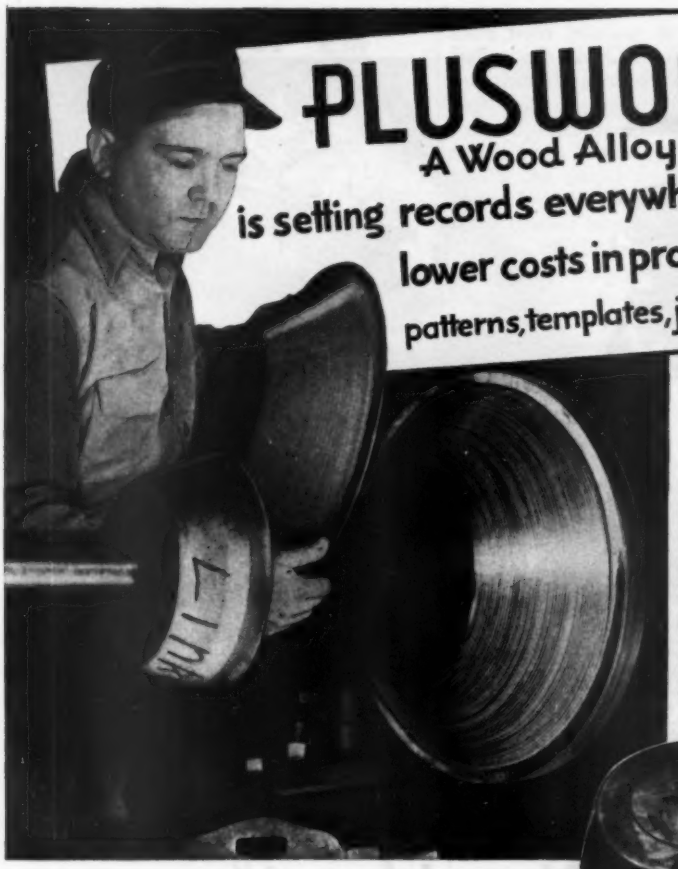

Spinning 14 gauge steel over Pluswood pattern at Acme Metal Spinning Company, Minneapolis. This leading Midwest company reports Pluswood is the most satisfactory and the most economical block material in their experience for heavy duty work.

Think of Pluswood as a metal — for its physical properties parallel those of many metals — and you will understand why this dynamic new wood alloy is leading engineers and tool designers directly to fresh conceptions of production efficiency. Made by a chemico-mechanical process, Pluswood has the strength of many metals, plus the metallic qualities of impact strength, toughness, and resistance to abrasion that make it ideal for heavy duty service. It is impervious to mild acids, alkalines, and corrosive fumes; is highly resistant to fire, and possesses extremely high dielectric strength. Water, moisture, and thermal shock do not affect its dimensional stability. Although metal-working tools are required to handle Pluswood, it offers far easier machining qualities than metal.

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Mystery in Rye

General Foods begins to sell its grain hoard and Chicago traders continue to speculate on success of the venture.

General Foods Corp.'s mystery in accumulating millions of bushels of rye stocks for two years deepened last week with its announcement that it was disposing of the grain at market prices.

• **Costly Venture?**—Chicago grain traders estimate that General Foods' holdings at the peak totaled 12,000,000 bu., may be now down to about 9,000,000 bu., the equivalent of one-third of the 1944 rye crop.

Trade sources lean to the opinion that General Foods is disposing of its rye because the venture proved costly and did not work out as a profitable operation. General Foods officials assert that their sole object was to protect the company against price advances in commodities.

• **Supplies Shrink**—During the two years that General Foods accumulated its rye hoard, Chicago Board of Trade brokers say that it carefully observed the Commodity Exchange Act provision which limits to 2,000,000 bu. the total quantity of grain controlled in a futures market. The company took delivery on the rye when the futures date arrived, and then placed more futures orders.

Rye, most of it owned by General Foods, clogged Chicago terminal elevators so that they were unable to store other grains that were offered. Elevator men say that practically all of the 9,500,000 bu. of rye now stored in Chicago is owned by General Foods. Chicago rye supplies now are shrinking at the rate of 125,000 bu. to 150,000 bu. weekly, most of it coming from the General Foods accumulation. Storage and other expenses cost the owner carrying charges of about 18¢ a bu. annually.

• **Sirup Project Lags**—General Foods surprised the trade last May with its announcement of a process to use rye to produce sirup as a substitute for scarce corn (BW—May20'44,p56).

Grain processors then doubted that rye could overcome corn's many advantages as a raw material for making sirup. Under an easier and less expensive process, corn yields more and a better quality of starch for conversion into sirup; the oil content of corn is higher than rye; supplies of corn normally are plentiful. Difficulties in obtaining equipment and other setbacks reportedly kept the rye sirup project in the laboratory. The plant in which General Foods

LOW COST POWER...TO WIN THE WAR NOW...AND [illegible] PEACE

MARY ANNE may cruise again

IT was the day before Corregidor's surrender that the Mary Anne went down. For five tragic months she had been on 24-hour duty in Manila harbor . . . carrying the wounded from Cavite to Corregidor, running supplies, scouting the Japs, evacuating Americans to submarines, executing scores of dangerous missions. Frequently under direct fire, she met her end from a Jap hit alongside the Rock. There she lies today, awaiting our return.

One of the smartest yachts built in the late '20s, the Mary Anne was a 122-foot twin screw diesel cruiser. Pride of her chief engineer's heart were her two powerful Cooper-Bessemer engines. When her second owner sold her in 1940, the vessel made her way across the Pacific without an engine overhaul. In fact, the only mechanical work done on the entire trip was to clean two fuel injectors during the second stop . . . at Guam. In Manila harbor when the Japs struck, she was commandeered by the Navy. Overnight, her polished brass and gay striped awnings were replaced with grim gray paint and machine guns. To the last, her diesels performed magnificently.

In fact, so well built are these Cooper-Bessemer diesels that when General McArthur's men come back to the Rock, the Mary Anne may cruise again, raised from her watery grave by Cooper-Bessemer powered salvage vessels. In hundreds of ships of many types, all over the world, Cooper-Bessemer diesels are giving good account of themselves in war. They will continue to turn in outstanding performance records through years of peace.

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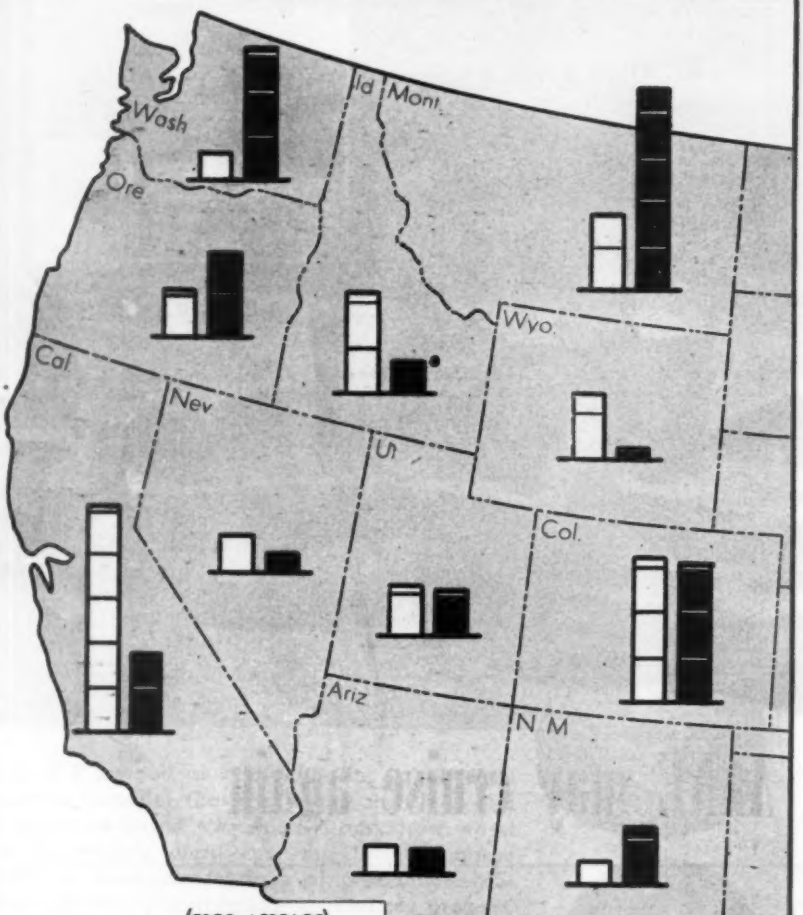
WATER—THE BIG ISSUE IN THE WEST

50% of all crop lands in eleven western states are watered by irrigation



STATE	(CROP ACREAGE) IRRIGATED	NONIRRIGATED
Arizona	652,806	569,657
California	5,069,568	1,761,385
Colorado	3,220,685	3,108,177
Idaho	2,273,949	723,103
Montana	1,696,063	4,548,860
Nevada	832,253	451,688
New Mexico	553,174	1,280,153
Oregon	1,048,076	1,888,452
Utah	1,176,239	1,042,673
Washington	615,114	3,015,702
Wyoming	1,486,498	258,384
Total	18,624,425	18,648,234

Data: U. S. Bureau of Reclamation. © BUSINESS WEEK

Water is a fighting word in the West, as the Missouri River battle between irrigation and navigation interests (BW—Jun.24'44,p42) and the Colorado River battle among eight states, the U. S. government, and Mexico (BW—Jul.29'44,p39) will attest. And the reason is not far to seek. Of the 37,272,659 acres of cultivated land in the eleven westernmost states, 18,624,425, or 49.97%, depend on irrigation for their water supply. William E. Warne, assistant commissioner of the U. S. Bureau of Reclamation, stated recently that with efficient use of existing water the amount of formerly arid and semiarid land under cultivation could be doubled. He went on to suggest that this might be one way of making a "new frontier" of free or low-rent farm land available to returning veterans who want to own farms.

planned to make the rye sirup has a annual processing capacity of only abou 500,000 bu.

• **Moderate Demand**—Demand for ry is seldom heavy. The normal crop about 40,000,000 bu., but the 194 crop is only about 27,000,000 bu. Brea bakers use about 11,000,000 bu., an before the war distillers used about 10 000,000 bu.

Grain men wondered last Jun whether General Foods was a stron influence behind WPB's order that di tillers of industrial alcohol use at lea 10% rye in their total grain bill. Thi rule, if obeyed, would result in the us of about 1,200,000 bu. of rye monthly Distillers are none too happy becaus they say the admixture of rye cuts thei daily alcohol production.

In the first nine months of 1944, th industrial alcohol program used 5,824, 000 bu. of rye, or 5.2% of the total grai bill. Before the WPB rye order, thi grain was only 1.2% of the total.

Fight on Deposits

Federal agencies disagree over security deposits required by some war housing projects. Courts may settle issue.

OPA, National Housing Agency, and the National Assn. of Home Builder are caught in a three-party disagreement over whether high-priority war housing projects should collect security deposit from tenants as insurance against prop erty loss and damage and rent-skipping.

• **Violations Charged**—The N.A.H.B. backed by NHA, contends that the should. OPA contends that the shouldn't—and is supporting its stand with enforcement actions which charge builders who have collected deposit with violation of rent ceilings. The controversy seems to be headed for final settlement by the courts or Con gress—possibly both.

Rents on priority housing project were fixed early in the war by joint agreement of NHA, WPB, and OPA. This agreement provided for a maxi mum shelter rent of $50 a month per unit, with an additional permissible charge of $3 a room for janitor service and other maintenance.

• **Enforcement Suits**—In OPA's opin ion, the maximum was high enough to cover such contingencies as excessive property damage, and rent officials have regarded collection of security deposit as a violation of the price control laws.

In two enforcement suits (involving priority housing projects in Norfolk, Va., and Hartford, Conn.) the court

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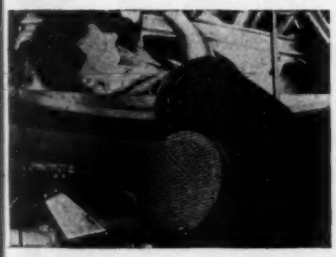

SMALL as you need . . . In contrast to the outdoor Goliaths shown on this page, the little Buffalo Baby Conoidal Fan above is supplying cool fresh air to a workman inside a bomber wing. Hundreds of these fans are used by airplane manufacturers for this service. For every fan application . . . there's a Buffalo fan of the right characteristics!

BIG AS ALL OUT-DOORS

Above are two of a number of Buffalo fans built recently for a chemical manufacturer. Installed out-of-doors, these huge fans operate with little attention, each handling over 864,000,000 cubic feet of air every 24 hours.

A service man, checking on the job, reports as follows:

"These fans are more than coming up to expectations. They expected to increase their output by approximately 20% by the installation of the fans, but they are actually increasing it about 29%."

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ruled that—lacking a specific regulation prohibiting security deposits—OPA did not have sufficient authority for its case in the price control act. Both decisions have been appealed by OPA.

In a third suit (in Newark, N. J.) the court ruled for OPA and the decision is being appealed by the defendant. A fourth suit in Detroit is now being tried before a master in chancery.

• **Regulation Revised**—After its first setbacks OPA amended its rent regulations Sept. 1 specifically to prohibit collection of security deposits.

To support its case, OPA cites instances of builders who have demanded deposits as high as $200 and $300—sometimes more. A tenant's chance of recovering part, or all, of such sums is slim, says OPA, because landlords are loath to part with the money and sometimes claim an entire deposit for minor damages.

• **Landlord's Aide**—N.A.H.B. concedes that there are a few black sheep in its ranks, but caps OPA's stories with a few of its own—stoves, refrigerators, even plumbing ripped out by the roots, tenants who slipped out in the dark of the night to evade rent payment.

The builders have proposed that OPA give NHA authority over security deposits, permitting local housing officials to arbitrate whenever landlords and tenants can't agree.

OPA has turned down this proposal and has also refused NHA's request that builders be permitted to hold one month's rent as deposit. The builders point out that managers of Federal Public Housing Authority projects have authority to use their discretion in collecting deposits.

• **Hearings Slated**—The builders have taken their troubles to Congress in hearings before the Smith committee (House select committee to investigate executive agencies). Further hearings are scheduled.

The OPA already has backed up its new regulation with positive action. The Parkfairfax, big priority housing project operated by the Metropolitan Life Insurance Co. just outside Washington, D. C., has begun to refund $125,000 in security deposits.

• **Tenants File Suits**—In Cleveland, OPA has brought its first security deposit suit since passage of the new amendment. In Cleveland, also, two individual tenants are suing for triple damages, charging that they had been required to forfeit $750 apiece as security deposits.

The N.A.H.B. also is seeking legal sanction for its stand. Using the Miller homes project in Detroit as a guinea pig, the builders have filed an appeal from the security deposit regulation with OPA's Board of Review.

Hospital to Grave

Texas mortuary offers patrons hospitalization as well as burial policy, thus protecting them in life as in death

Fifty percent of the funeral-direct establishments in the U. S. sell bu insurance policies as one means avoiding financial loss in relations w families of low income. Pleased w results of such insurance, the Fo West Co., which operates a mortuary Houston, Tex., is expanding coverage include sickness and hospitalization.

• **Pros and Cons**—Some 15 years a burial insurance was introduced in A bama and spread to Mississippi a Georgia. Insurance firms frowned up

ONE MORE TO GO

Tipping the beam at 70,000 lb., th fifth in a half dozen propellers o dered for big combination ore an cargo vessels nears completion at th Philadelphia shops of Baldwin Cramp Brass & Iron Foundries di sion. The sixth has already been ca Of solid bronze, the four-bladed 22 propellers are said by Baldwin to b 50% heavier than the largest pre ously turned out in the U. S.

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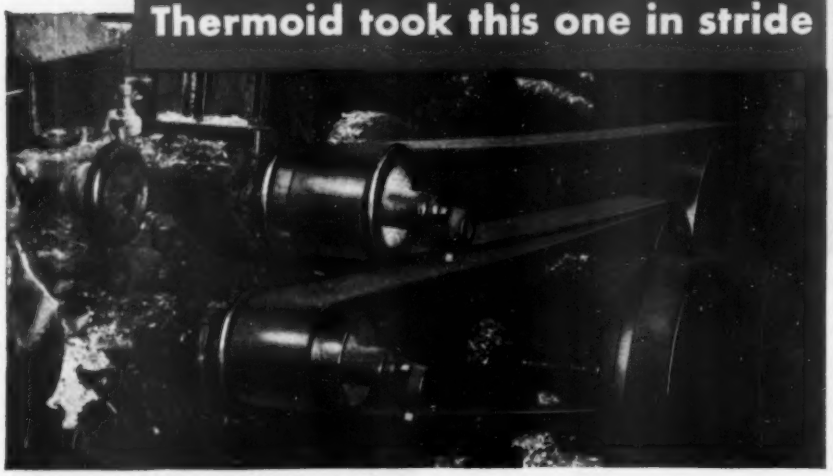
Thermoid took this one in stride



In operating a top-head woodworking planer, two belts were used, each made endless with a standard make of connector. One belt was driven by a driving pulley. The second belt derived its power from contact with the first belt beneath it. Each belt had to maintain an *exact* length to function properly. But the belts stretched and frequent stops had to be made to shorten them. Also, a bad oil situation was present. The manufacturer appealed to Thermoid for a solution.

Thermoid recommended the use of two Thermoid non-stretch endless belts, made of Neoprene, to counteract the oil condition. Result: smoother operation, smoother product, and elimination of shut-downs for belt shortening.

The solution to this problem was comparatively easy because of having the right product to do the right job. Thermoid solves numerous problems of this type every day. If you have an industrial rubber product problem, call in the Thermoid representative. His experience, combined with Thermoid's complete line, extensive research and manufacturing facilities may give you the solution.

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it, and many funeral directors ragged as a racket. Others, however, annoyed at the big losses they incurred with families unable or unwilling to pay overdue funeral bills, saw in the burial policies an opportunity to guarantee cash payment by providing low-income families with policies to meet funeral expenses.

As burial associations spread, states began writing regulations. For competitive reasons, holdouts among the funeral directors began organizing burial associations of their own, and state laws prohibiting such organizations have gradually been torn down, although Texas still limits a burial association policy to $150, while some southern states have a limit of $350 and others $500.

• **Approved by State**—The policy issued by Fogle-West Co. has been approved by the Texas State Insurance Commission as meeting the legal reserve insurance requirements. The policies are sold by the same agents who formerly sold only Fogle-West burial policies limited to $150.

The Fogle-West hospitalization policy is unique in that it provides so much per day, up to $12, for each day in the hospital; the payment is made to the patient who may select the type of room and the various special medical services he wants, in contrast with the conventional group hospitalization policy which provides stipulated amounts for each service.

FUME NUISANCE PERSISTS

Los Angeles still hasn't solved its fume nuisance.

Since the fall of 1943, when a new butadiene plant was blamed for fumes resembling tear gas (BW—Oct.2'43, p66), the Southern California Gas Co. had remodeled its equipment, inclosing everything, but there are still fumes on windless days.

Experts conjectured that factory chimneys, home incinerators, auto exhaust, oil refineries, and many other small contributors created the smoke that blanketed the city on still days. New laws were proposed, and some suits brought, on the theory that smoke alone was the problem.

Then, two federal health officials were brought in. After investigation, they reported that Los Angeles had two problems, one of smoke, which could be controlled, and the other of fumes analyzing 42 milligrams of chemical per ten cubic meters of atmosphere, against Chicago's six mg. The cause is as yet unknown.

Proposed city and county smoke control laws will drastically regulate factories, home incinerators, locomotives, autos, and central heating equipment.

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GENERAL ELECTRIC

NHA's Problem

Temporary housing faces uncertain future. Agency wants to tear it down, but numerous peacetime uses are suggested.

Cities and towns with temporary government housing for war workers are getting ready to go to battle over whether this housing is to be torn down or continued in use. Already there have been skirmishes.

• **Big Investment**—The National Housing Agency has practically completed its share of the 1,800,000 housing units that were needed. War housing represents a $6,000,000,000 investment in permanent, converted, and temporary dwellings, demountable structures, dormitories, and trailers of which the government financed one-third of the total cost.

Nearly 1,000 communities have war housing, including 850,000 permanent family dwellings built with private funds, and 192,000 family units and 3,000 dormitories of permanent construction built with federal funds.

• **Many Temporary Units**—Built for the duration of the emergency are 250,000 dwellings, 150,000 dormitory rooms, 40,000 trailers and portable units—a total of 440,000 units. Considered as temporary shelter and as expendable as ammunition, these will be the bone of contention. Under the provisions of the Lanham act, all these are to be removed within two years after the end of the emergency.

There can be exceptions only when NHA and community authorities agree, but exceptions must be reported to and reviewed annually by Congress.

• **Question of Values**—The questions are how much can be salvaged from this big investment of taxpayers' money and how to do it without damage to real estate or construction interests. NHA officials say that war housing should be torn down to prevent development of federal-owned slums.

Real estate men are interested in preserving prewar rental values. One group of plumbing and heating men proposes to use salvaged equipment in existing slum dwellings (BW—Sep.30'44,p56), but critics argue that a slum with a furnace and a toilet is still a slum. NHA points out that much of the temporary housing equipment and the material is of wartime quality.

• **Might Replace Slums**—Temporary wartime housing generally is better than slum housing, and this has produced

SANDWICH MEN

With the help problem being what it is, the inevitable has been developed—a robot short order cook which turns out 3,500 sandwiches an hour. In Brooklyn, James Gallacher, technical school custodian, and William Henn, shop maintenance man, adjust their machine which was set up to facilitate preparation of school lunches. Sliced bread travels a belt to the conical spreader, gets a coating of jelly, marmalade, cream cheese, or meat paste, then picks up the top slice on the way out. Talk that Gallacher and Henn are planning a machine for triple-deckers remains unconfirmed.

OUR PIONEERING DAYS ARE NOT OVER

HORSES SHIED at the quaint contraption shown above, as it chugged its way over country roads 40 years ago. It was an early International Truck—called an "Auto-Wagon" in those distant days. It was a pioneer in the truck field.

The men who made those early Internationals were truly pioneers. The going was tough. They had to fight the prejudices of many who were geared to the horse and wagon. And they had to conquer a wilderness of unsolved mechanical and engineering problems.

But the trucks they made, even then, were tough. Just as the International Truck of today is tough, with a built-in toughness that has made International America's favorite heavy-duty truck. Yes, registration figures show that more heavy-duty Internationals were sold than any other make, in the ten years before the war.

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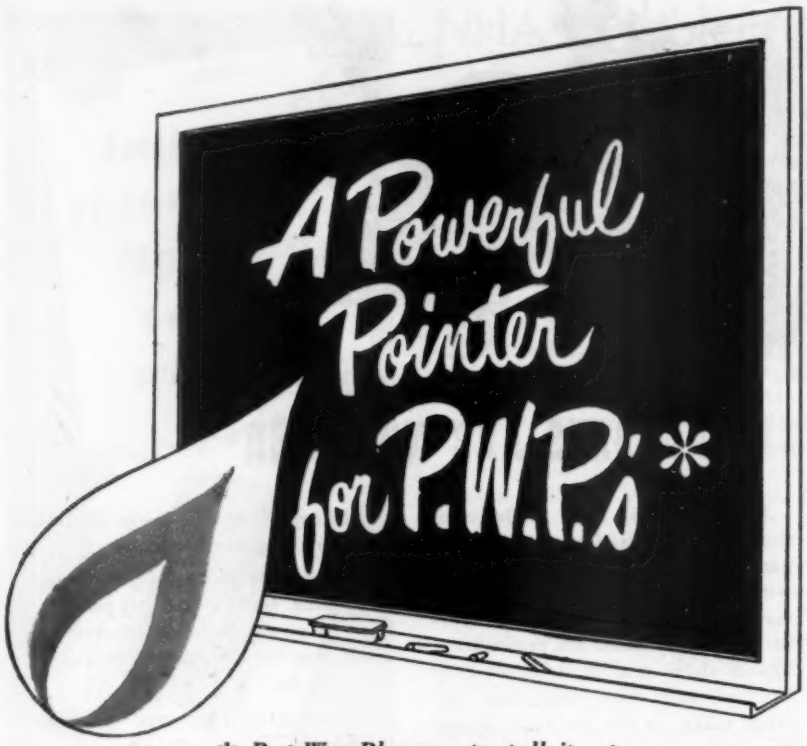

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another argument. If a slum house is torn down for each temporary war housing unit left standing, a compromise might be reached, at least on a part of the problem.

• **Some Already Sold**—After the war NHA will release permanent war housing for peacetime use. In some areas restrictions on occupancy and sale are being lifted now, as at Newport News, Va., with the sale of the 980-unit Stuart Gardens project to a group of business and professional men for $3,615,000. Occupancy restrictions, however, remain in force.

Stuart Gardens was a part of the Defense Homes Corp. program financed by the Reconstruction Finance Corp. It is not a typical war housing project because it was erected early in the war for higher-income groups.

• **Many Workers Housed**—Of the 4,000,000 workers who moved to war centers and were helped by government agencies to find lodgings, 2,200,000 found places in existing dwellings. Private capital built housing for 1,000,000, which left 800,000 to be supplied with housing built with federal funds totaling $2,300,000,000.

Some temporary housing is suitable for conversion to utility buildings such as libraries, community canning centers, or even hospitals. Some has definite use on farms but, in general, not for dwellings. Cities which suggest that war housing of the temporary kind be sold to farmers overlook the fact that farm dwellings usually need to be more weatherproof than city dwellings. Local welfare societies would like some of the temporary houses.

• **Public to Decide**—Solutions to the problems of temporary housing in the long run will be decided by community public opinion, but it is now a major policy of the NHA to see that public opinion considers long-time benefits rather than immediate exigency.

INSECTICIDE LEAF SHORT

The current tobacco shortage is worrying vegetable growers as well as cigarette smokers (BW—Oct.14'44,p19).

Cauliflower, cabbage, and tomato crops in Los Angeles County, Calif., may be seriously affected because of a lack of nicotine sulphate. Lack of incoming shipments there may force many vegetable growers to abandon their truck gardens. Currently, the aphids are eating up the Florida cucumber crop.

The shortage is due to the fact that broken tobacco for insecticide, which normally sold at 4¢ to 4½¢ per lb., is being sold for smoking tobacco at 14¢. Price ceilings on nicotine sulphate make it impossible to use material at that cost.

PRODUCTION

War Dividend

Permanent benefits for industry are expected from work of WPB's conservation unit on substitute materials.

Although much of its wartime activity was devoted to devising substitutions for critically scarce materials, the permanent benefits of WPB's Conservation Division, which was abolished Oct. 31, will prove to be its work in simplification and standardization, division officials believe.

• **Substitutions to Go**—Relatively few of the many outright substitutions devised by the division's technical staff are expected to remain as standard practice when materials again become available in normal supply and at normal prices.

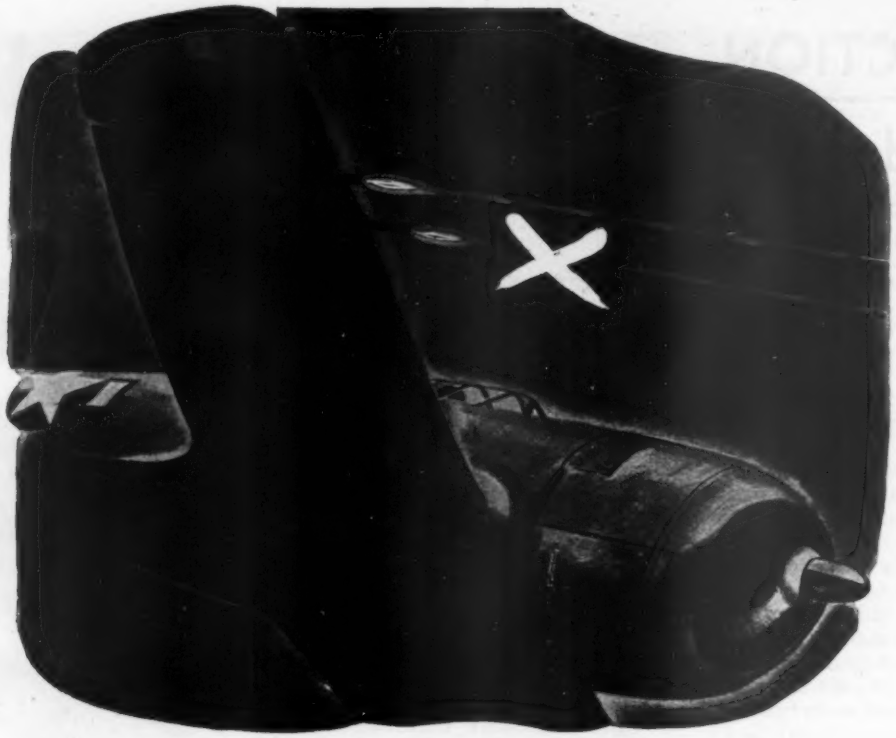
But it is probable that many first applications of new materials (as contrasted with makeshift substitutions for scarce materials) will become standard practice. Many substitutions, such as one replacing a metal with a plastic and another replacing plastic with a metal, were made and will last. Many of these applications would have been made in any event, but the existence of the Conservation Division is thought to have considerably speeded their adoption. The division's pool of technical information needed to convince a manufacturer that a substitution would work saved months of delay, tons of material, and thousands of engineering man-hours. This technical information was available to all comers.

• **Accelerated by War**—Substitution of die castings for stamped or machined parts will doubtless become standard practice in many applications after the war. But the use of die castings was growing when the U. S. entered the war, and new and superior production methods which broadened the use of such castings must be considered part of technological advancement accelerated by the war.

It was the establishment of standards for die casting equipment, production and testing methods, which the division pioneered and promoted, that made quickly possible the broad use of die castings and their acceptance by the armed services.

• **Question of Quality**—In the main, such substitutions as ceramics for metal in traffic direction signs and pressed paper for metal in automobile license plates were made necessary by abnormal

Continental
Red Seal
Engines
POWER TO WIN
Another notable achievement of Continental is the powering of landing craft. Landing operations require the most dependable power, and it is of real significance that Continental Red Seal Engines were chosen to function in this important capacity.
It is, however, only one of many contributions Red Seal Power—the Power to Win — is making to speed the end of war.
Your Dollars Are Power, Too! Buy War Bonds and Keep Them!
ARMY E NAVY
Awarded to the Detroit and Muskegon Plants of Continental Motors Corporation for High Achievement
Continental Motors Corporation
MUSKEGON, MICHIGAN

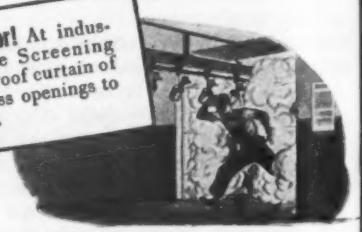


Gun in a jam . . .

WHEN stoppage occurs in the famous "fifty" machine guns used on our war planes, it's quickly detected and cleared by a "thinking machine." This Kidde Pneumatic Machine Gun Charger, operated by compressed gas, corrects gun-charging troubles or stoppages, gets gun firing again—all within one-half second!

Trigger-fast fire-killer! Take aim, pull trigger — and blanket fire! Carbon dioxide from Kidde extinguisher expands 450 times, smothers fire in cloud of gas.

Fire block for open door! At industrial plants, Kidde Screening Nozzles throw fire-proof curtain of carbon dioxide across openings to block spread of fire.



Dug-out surgery! Deep in the jungle, these combat surgeons work skillfully to save a life, as special Kidde shatter-proof cylinder delivers the anesthesia.

Gases-under-pressure, harnessed by Walter Kidde & Company, are serving our fighting men in many ingenious ways. After the war they'll serve you. Look for them!

WALTER KIDDE & COMPANY, INC., NEW YORK 6, N. Y.

circumstances, and they required acquiescence to a degree of product deterioration which would never have been tolerated under normal conditions. For example, American hemp has provided rope which the military services use because they can get no better, but it will be junked in short order when manila fiber again becomes available.

A few substitutions clicked to a degree that will guarantee their continued use after the war. Nylon towropes, for instance, unquestionably will be used for whatever postwar glider towing is practiced by the airlines.

• **Less Tin in Solder**—Some Conservation Division experts believe that a lead-rich babbit metal which was substituted for high-tin babbit will be widely used after the war in many applications on the basis that it performs equally well and costs appreciably less.

These experts also see a good future for solders developed because of the tin shortage, in which tin content was cut 15% to 20% from the usual 50-50 ratio with lead.

• **3,500 to 1,700**—But it is in the field of simplification and standardization

MACKS COME BACK

Three executives of Mack Trucks, Inc., examine a model of the first bus their firm will produce after almost two years of Navy war work. They are (left to right) F. F. Staniford, vice-president; L. C. Josephs, chief engineer; and C. T. Ruhf, president. WPB's authorization for Mack to resume bus output at Allentown, Pa., is primarily a belated effort to get such production up to schedule. With 3,587 integral units turned out in 1944's first nine months, bus building is running 20% under par—mainly because of the tight casting situation.

Handle your materials

the modern way—

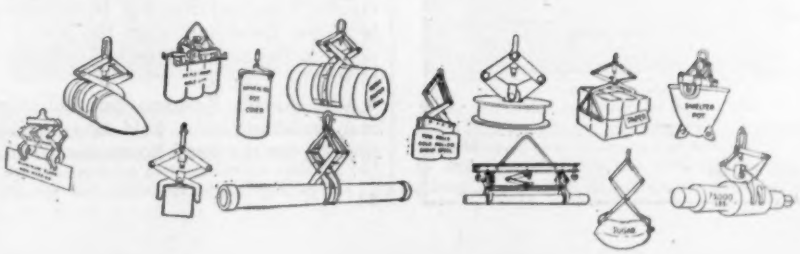
the faster, safer, more economical way—

use

Heppenstall Safe-T-Tongs

Wherever there is a repetitive materials' handling job, industry is switching to Heppenstall Safe-T-Tongs. Heppenstall Tongs are fully automatic—not power driven. They pick-up, land and release a load simply by raising and lowering the crane. They are faster, safer, more economical. They are proved by extensive use. Heppenstall makes 'em to handle any weight, shape or type of material. Write for Safe-T-Tong book. It may give you a new answer to lower production costs, greater profit margins, easier competitive selling. Heppenstall Company, Pittsburgh, Pa.

Forging fine steels for over 55 years



Me? I'm Waiting for Sedgwick

. . . the precision-engineered line of elevators and dumb waiters.

Undoubtedly you, too, are making plans for modernization, reconversion or new installation of elevators and dumb waiters. For modern elevators and dumb waiters are essential to the efficient movement of men, material and merchandise—effectively reducing costs by increasing efficiency.

For more than 50 years Sedgwick electric and hand power elevators and dumb waiters have been solving "man" handling and materials handling problems in factories, hotels, hospitals, restaurants, schools, libraries, private residences and commercial offices, as well as institutional and private buildings.

If this experience, plus the engineering and manufacturing "know how" gained through wartime production for the Navy, Coast Guard and Merchant Marine, can be of assistance in furthering your postwar elevator and dumb waiter plans, *tell us about them.* Our engineers will be glad to help and show you how Sedgwick elevators and dumb waiters move men, material and merchandise better and faster—at reduced cost.

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159 West 15th Street, New York 11, N. Y.
ELEVATORS • HOISTS • DUMB WAITERS

Will Your Car Outlast the War?

As a special wartime service to owners of ALL MAKES of cars, General Motors offers a new edition of The Automobile User's Guide, containing 196 practical suggestions on such subjects as *how to get better gasoline economy, how to prolong tire life, how to keep your car in the best operating condition, etc.*

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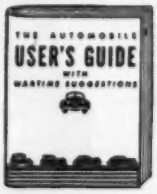

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Please send FREE COPY of new 64-page "AUTOMOBILE USER'S GUIDE"

Name.....
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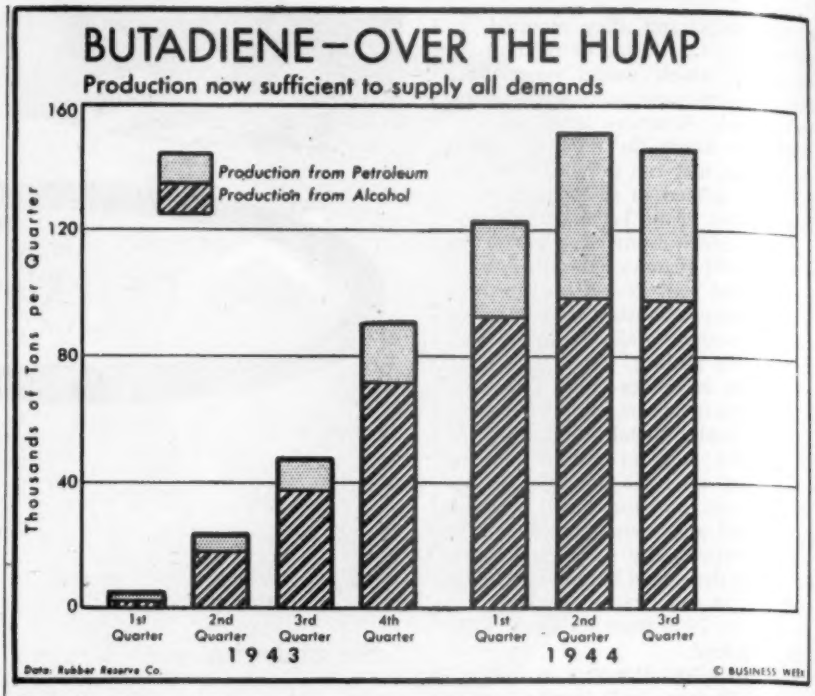


Butadiene, most important component in the manufacture of Buna-S synthetic rubber, reached peak production in the second quarter of 1944—a rate of more than 600,000 tons a year. Since then, because production was running ahead of consumption and storage tanks were pretty well filled, output has tapered off slightly. Biggest beneficiary of the drop has been the aviation gasoline program, which utilizes some of the petroleum fractions (butylenes and butane) needed in butadiene manufacture. But the decline in the use of alcohol for butadiene also augurs well for another whisky holiday, though probably not before the first of the year.

that the division's wartime labors are expected to exert the greatest influence on postwar production.

Consider the simplification job done on incandescent and fluorescent lamps when materials became short and production capacity for radio tubes was desperately needed. The list of 3,500 types of lamps was reduced to 1,700, colors were reduced from 13 to 3, voltages from 32 to 7, and the number of optional bases from seven to one.

This was accomplished without costing the nation the services of any device which might require a lamp. Besides releasing capacity for manufacture of radio tubes, this simplification program saved 650 tons of steel, 35,000 lb. of solder, 8,000 lb. of tungsten, and 1,300,000 man-hours of direct labor.

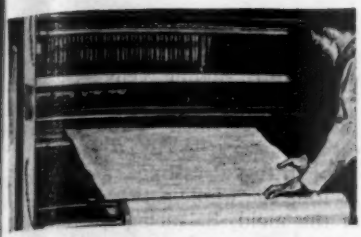
Director Howard Coonley believes that these savings are so great that the electric lamp industry will be unwilling to throw them out after the war and revert to the manufacture of 3,500 types to do the same job.

• **Aids Small Business**—Simplification and standardization hold considerable promise for the small businessman. For example, fewer types of farm equipment, with more interchangeable parts per type, will mean smaller inventory for the equipment dealer. And smaller inventory means more rapid turnover, which in turns means more profit.

In foreign trade, simplification and standardization, by cutting costs and easing maintenance problems, will prove to be good salesmen for American products.

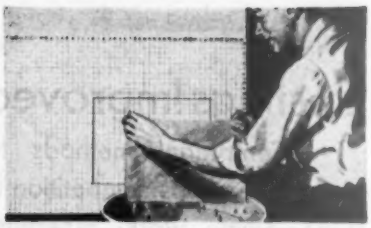
• **Specifications to Stay**—Another of the Conservation Division's activities which will have postwar value is its preparation of specifications, particularly for government procurement agencies. The division held active membership on the 72 federal committees which had the task of drawing up specifications for goods purchased by the government.

Establishment of the national emergency steel specifications is one of the division's notable accomplishments. This entailed both the division's specification-prescribing function, its substitution and its simplification functions, for the NE steels did the work of many specifications and reduced the consumption of certain critically scarce alloys.



Glass . . . in the form of a strong, thin, porous, felt-like mat . . .

. . . a flexible web of incombustible, fine, long, interlaced glass fibers . . .



. . . fibers that will not swell, shrink, rot . . . that resist most acids.

WHERE NEXT WILL YOU BENEFIT FROM THE USE OF THESE

Strong "Tissues" Made of Glass?

Among the many forms of Fiberglas which are serving you today, Fiberglas Mat is one of the most versatile, its form and properties offering wide diversification in application.

Longer life is being built into today's batteries for cars, trucks, busses—yes, and for military vehicles and submarines, too. When you buy your next battery, ask for your favorite make—equipped with Fiberglas Battery Mats.

Battery manufacturers take advantage of its "tissue" thinness and porosity . . . and its resistance to acids . . . to help their top-quality batteries give longer service.

Chemists use Fiberglas Mat as a filter "paper" . . . again because it is porous, and because fibers of glass are chemically stable.

Electrical engineers found that it offered an ideal base and reinforcement for plastic laminates . . . because glass fibers have great tensile strength, are noncellular, inorganic, do not swell or shrink under fluctuating conditions of moisture and heat.

Photographers are using Fiberglas Mat as a diffusing screen over powerful lights . . because it is translucent and because glass will not burn.

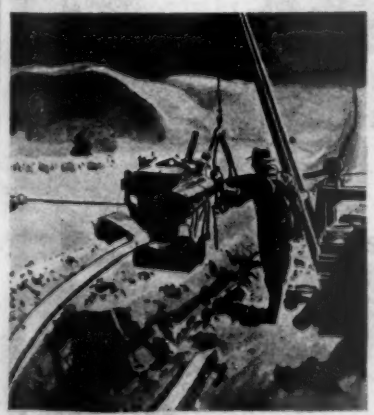
And innumerable uses are being discovered by product development engineers who recognize the fact that, in addition to its other properties, Fiberglas Mat is porous, has what is known as large "free volume" which permits loading with bitumens, synthetics, resins, gelatin, starch—other soluble or insoluble binders.

Should the few applications illustrated on this page have aroused your interest and stimulated your thinking, Fiberglas welcomes the opportunity to provide further information and discuss the possibility of applying Fiberglas Mat to other products or processes . . . *Write Owens-Corning Fiberglas Corp., 1803 Nicholas Bldg., Toledo 1, Ohio. In Canada, Fiberglas Canada Limited, Oshawa, Ontario.*

FIBERGLAS

*T. M. Reg. U. S. Pat. Off.

A BASIC MATERIAL



Joining the fight against corrosion, Fiberglas Mat is being used as a protective wrapping for the asphalt-coated underground pipe lines which carry gas and the products of the refineries closer to home and industry.

Improved gaskets and packing material for processing equipment may well result from developments now in progress by manufacturers taking advantage of the chemical stability, resiliency, heat resistance of Fiberglas Mat.

Better performing radio and television sets will result from the wartime development of a new material combining Fiberglas Mat and plastics, of which manufacturers are making high-frequency, low-electrical-loss parts.

Castings Improved

Centrifugal methods to give forge shops competition in large-volume work; otherwise they may not be economical.

Competition between foundries and forge shops will be sharpened after the war by the "rediscovery" of centrifugal methods of casting. The number of foundries producing steel castings by centrifugal methods has more than doubled since the beginning of the war, and the foundries that had been making such castings have more than tripled their facilities, it was reported recently to the Society of Automotive Engineers. Precise statistics are restricted information.

• **More Uniformity**—Leading advantages of centrifugally cast parts over those poured into orthodox static molds are higher physical qualities, greater yield and lower scrap loss, savings in machining costs because they can be produced nearer to finish dimensions and with more uniformity, and freedom from marked directional differences in strength, in contrast to forgings.

While equipment for casting centrifugally costs more than that for static castings, space requirements are comparatively small and less skilled personnel is needed.

• **Good for Volume**—Chief field for centrifugally cast steel parts is where volume requirements are relatively large. They are not expected to compete to any great extent with steel cast in static molds for two reasons. Centrifugal processes are not economical for producing intricate shapes that require delicate or complicated cores, and they are not apt to be economical for the general run of jobbing work where only a few castings are required at any one time.

True centrifugal casting differs from two equally important centrifugal methods, the semicentrifugal and the centrifuge. True centrifugal castings depend for their inside contours entirely or almost entirely on centrifugal force.

• **Depends on Speed**—Molds spun around a horizontal axis produce a cylindrical inside contour in the casting, and those spun around a vertical or inclined axis produce paraboloidal contours dependent upon speed of rotation. Outside contours are usually symmetrical but unsymmetrical parts are being produced by balancing the mold with counterweights. Cylindrical castings such as pipe can have flanges, grooves, ribs, bosses, and other protrusions.

Cast-iron pipe was the first important centrifugal casting from a production standpoint. It has been manufactured for 20 years, and a process was developed by the Watertown Arsenal for making large gun barrels. Still later various companies developed processes to meet special needs.

• **Cylinder Barrels**—Development of lightweight, thin section centrifugal castings started in the early thirties. Some of the automobile companies took an active part in this development for large-scale production of short cylindrical parts such as engine cylinder barrels and sleeves, and bearing backs. Other parts of this type are bogie wheel hubs, pump liners, motor and generator frames, ring gears, hoist drums, seat rings, and bushings. Long tubular castings such as hydraulic cylinders and plungers, hollow shafting, retorts, and refinery still tubes are now being produced by the true centrifugal method.

Semicentrifugal castings are spun around their own axles also, but inside contours are formed by a core. This permits greater freedom in design. Parts need not be entirely symmetrical and the inside form can be irregular. Often several parts are stacked in one mold, which is usually spun around a vertical axis. Although special equipment is more satisfactory for producing this type of casting, in some instances ordinary molds are clamped to a rotating turntable.

• **Used for Gears**—Good examples of semicentrifugal castings are gears and gear blanks of all kinds, including those with three or four on one hub, sprockets, flywheels, track wheels, front wheel spindles and ball socket joints for four-wheel drive motor vehicles, sheaves, impeller hubs, electric motor heads and thin-sectioned turbosupercharger casings.

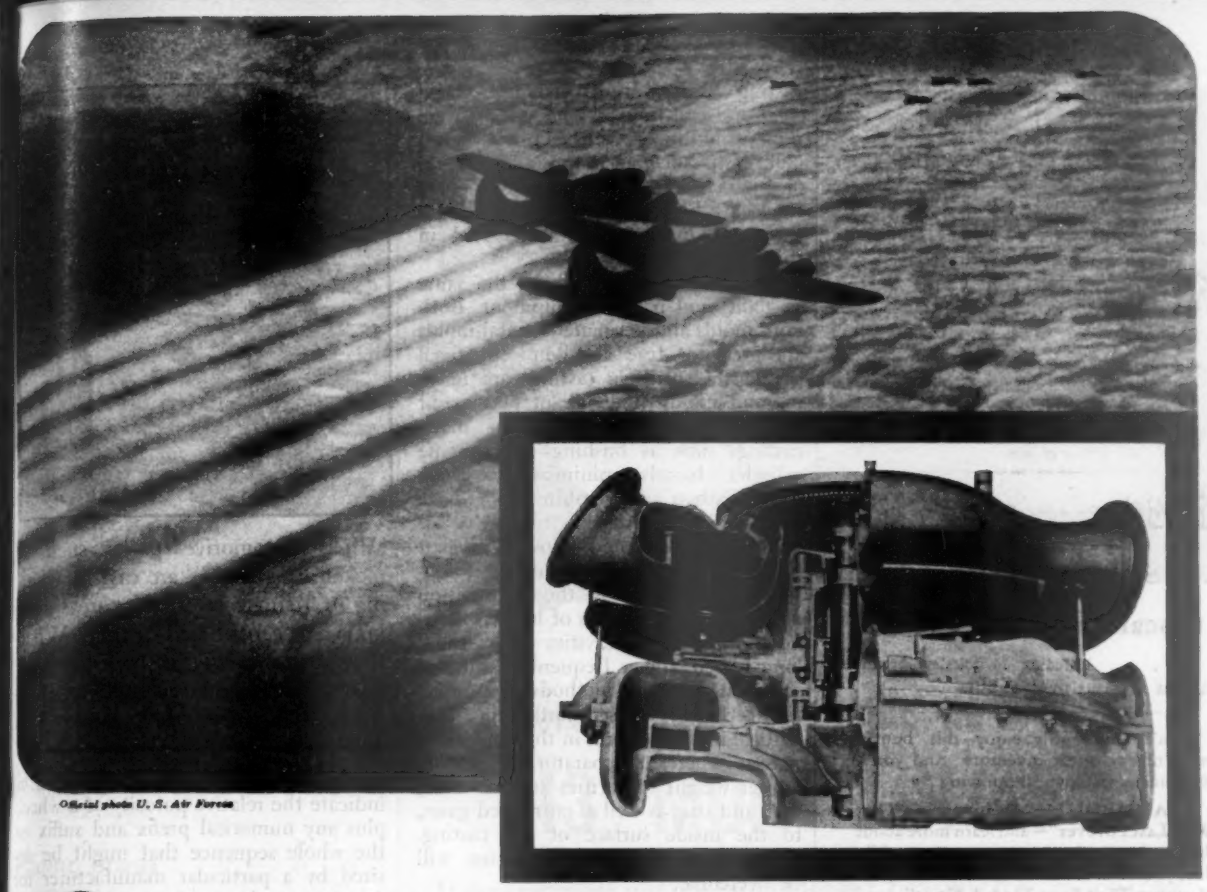
Centrifuged castings are made by rotating the whole part around the axis of the mold. Balancing is attained by arranging several parts symmetrically around the axis. Usually several layers of symmetrically arranged but unsymmetrical parts are spun in the same mold. When removed from the mold, parts are bound together by center-gating into one piece, known suggestively as a "Christmas tree." Some "precision castings," made by the "lost wax" process, are handled centrifugally by swinging the whole mold on the end of a horizontal counterbalanced arm around a vertical axis. Most castings of this type weigh less than a pound.

• **Some Disagreement**—A wide variety of shapes, such as levers, cams, brackets, and other parts commonly produced by drop forging can be made in this manner. Not all authorities agree that the same guarantee of soundness or high physical properties is obtained as in true centrifugal castings.

Most metals can be cast centrifugally. Gray iron is commonly used for pipe. Nearly all steels and alloy steels that can be cast in static molds can be cast centrifugally. Copper, copper-nickel alloys, aluminum and manganese bronzes, and a variety of copper-tin-lead-zinc alloys have been cast centrifugally. Recent outstanding developments have been in light steel.

• **Composites Used**—Combinations of metals can also be bonded together by

As the centrifuges with their multiple molds (foreground) are brought up to speed, they are poured with molten metal through a central sprue. Centrifugal force gets in its work, rendering the resultant castings free from flaws.



Official photo U. S. Air Forces

Breathing Fire at 65 below Zero

At eight miles up, where the air is too thin to sustain combustion, it must be compressed and crammed down the airplane engine's windpipe. That's the job of the ingenious device shown above—the turbosupercharger.

One half is a rotary compressor—the other half a gas turbine, driven at some 30,000 r.p.m. by the flaming exhaust gas from the engine.

Simple? How about the conflict within the metal created by hot gas at 1500° expanding it from the inside while frigid air at 65 below zero contracts it from the outside? What of a tremendous centrifugal force trying to pull the rotor apart—to say nothing of corrosion and the scouring action of the rushing gas?

No wonder that Republic Electric Furnace Steel is used for the shaft—and in stainless grade for the turbine housing and rotor wheel. The tiny turbine blades welded to the rotor wheel are electric furnace steel, too.

It's in difficult uses like this that Republic Electric Furnace Steels demonstrate their ability to hit narrowest specification marks through the "targeting" possible only in electric furnace melting.

It's in such vital applications that the slight extra cost of Republic Electric Furnace Steels is cheap insurance against premature, dangerous and costly failure.

Republic—world leader in electric furnace steel-making—is ready to tell you how these same steels can help YOU achieve top quality in YOUR peacetime products—how their consistent uniformity, cleanliness and soundness will enable you to obtain maximum results from mass production methods. Write us. Republic Steel Corporation, General Offices—Cleveland 1, Ohio. Alloy Steel Division—Massillon, Ohio. Export Department—Chrysler Building, New York 17, New York.

REPUBLIC

—Leader in the Production of

ELECTRIC FURNACE STEELS

"QUALITY" steels . . . alloy . . . stainless

THE WORKS . . . from the humorous Elliott catalogue of 1888.

FREE, Fascinating, Unique 64-Page Book . . .

The Story of a Father and Son
OR
UNSCREWING the INSCRUTABLE

. . . including 14 priceless business cartoons of the elegant eighties . . .

You'll thoroughly enjoy this human story of two great inventors. And you'll learn many facts worth knowing.

READ ABOUT—"An Invention That Will Last Forever"—and learn more about the steering mechanism on your automobile than you've ever known before. **"The First Machine That Ever Tied A Knot"**—and see how a square knot was tied in a new way. **"The Invention of the Low-Wheeled Trotting Sulky"**—and what it did in 1895 for "Nancy Hanks" the famous trotting mare.

And many other ELLIOTT INVENTIONS, in the addressing machine art. How they came to be invented and the exciting things that happened when they were.

FRANKLY, **The Story of a Father and Son or Unscrewing the Inscrutable** was written to advertise the Elliott Typewriteable System of Addressing—but it's unique, unlike any advertising you've ever read. It is the inside story of inventive genius at work,—211 patents awarded in the last 70 years to father and son. Read what a few of the thousands of enthusiastic business executives have voluntarily said about it: "First advertising booklet I ever read clear through from beginning to end."—"A fascinating story very humanly told."—"Best thing I've read for eight years."—"One of the most interesting and informative booklets I have ever seen."

Send now for this fascinating 64-page book of valuable facts and delicious humor by writing on your *business letterhead* to The Elliott Addressing Machine Co., 151 Albany St., Cambridge 39, Mass.

CONTINUE TO BUY BONDS

Elliott
ADDRESSING MACHINES

casting. Brake drums having a steel shell and cast-iron braking surface were used on motor cars long before the war. Composites of gray iron and brass, and of high-chrome steel with lower-grade steel have been produced. Extensive future developments are anticipated in this field.

Mold materials cost about the same as good sand pattern equipment. Both sand molds and permanent metal molds are used for true and semicentrifugal castings. Centrifuge castings are made in sand molds. The use of permanent and semipermanent molds for many castings such as bushings and engine cylinder barrels minimizes cleaning costs. Carbon and graphite molds have been used for nonferrous metals.

• **Cavities Eliminated**—Most significant improvement from a foundry and consumer standpoint is the elimination of the common defects of hidden blowholes and shrink cavities in castings, long feared and a frequent reason for selection of other methods of production of highly stressed parts. Since centrifugal molds perform in the same manner as a cream separator in forcing lighter weight impurities such as sand, dirt, and slag, as well as entrapped gases, to the inside surface of the casting, much prejudice against their use will be overcome.

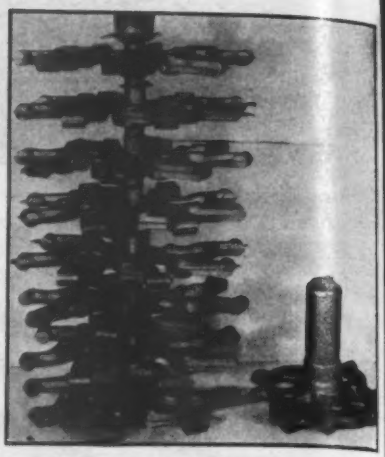
The fact that knowledge in this field has been pooled for the production of war products is also of considerable importance to future applications and development.

WHEEL IDENTIFICATION

Dec. 1, 1944, is the date set by the 30 or more members of the Grinding Wheel Manufacturers Assn. for the first shipments of their products to bear new "standard markings for identifying grinding wheels and other bonded abrasives," such as hones, rubs, bricks, sticks, segments, and other shapes. The standards will apply neither to diamond wheels nor to specialties such as natural sharpening stones which require different systems of symbols.

Each wheel will carry a minimum of four symbols—three of them letters of the alphabet and one a number. Thus if you see "A-36-L-V" on a future wheel, and have a chart for translating the sequence, you will know that "A" stands for aluminum oxide, a type of abrasive, "36" indicates the grain size, "L" means the wheel is almost midway in grade between soft and hard, and "V," a vitrified bond. "C-600-Z-R" would mean a silicon carbide product of exceptionally fine grain size and hardness, bonded in rubber.

Optional markings permitted by the standards would add a number between the symbols for hardness and bond to indicate the relative porosity of a wheel, plus any numerical prefix and suffix on the whole sequence that might be desired by a particular manufacturer for private record or code purposes.



When automotive parts, such as rocker arms (right), are cast by whirling in a single layer, they are simply known as centrifuged castings. When they are similarly cast in multiple layers (left), foundrymen like to call them "Christmas tree" castings.

"SLIMLINE" LAMPS READY

Both General Electric and Westinghouse let it be known this week that a few samples of long, thin fluorescent lamps will be ready in about a month but only for the design departments of lighting fixture manufacturers. First will come ⅜-in. "slimline" lamps in two lengths, about 42 in. and 64 in.; later on, 1-in. lamps in lengths of approximately 6 ft. and 8 ft. Availability to the general public will be made known "when the time comes."

Slimlines promise to have a light output of 60 lumens to the watt of input, which is considerably more than that of standard F-lamps. The newcomers will not fit standard fixtures because their bases will have single pins instead of the customary double pins. Though the longest model will look very much like a high-voltage cold cathodo lamp of the type brought out last spring by the General Luminescent Corp., Chicago (BW—Mar.25'44,p70), and will require no "starter" for instant lighting, the new line will be of the more usual hot cathode type for standard voltages.

One significant departure from F-lamp orthodoxy will be the reported ability of the slimlines to operate on milliamperages ranging from 100 to 200.

NEW PRODUCTS

Withholding Tax Charts

Four editions of the new Delbridge Simplified Withholding Tax charts are being published by Delbridge Calculating Systems, Inc., 2502 Sutton Ave., St. Louis 17: (1) No. 533 for weekly payrolls; (2) No. 533A for biweekly payrolls; (3) No. 533B for semimonthly payrolls; (4) No. 533C for monthly payrolls. Purpose of each is to "guarantee the accuracy of your payroll deductions and make them at lightning speed" when the revised federal tax law becomes effective Jan. 1, 1945.

Charts are in the form of 9¼x6¼-in. visible indexes with 16 durable hinged cards each. Since tax deductions will be based on the number of personal exemptions a particular employee may have (self, wife, child, children, and so on), a payroll clerk needs only flip the index to the card carrying a particular pay total and read the proper deduction prefigured for a given number of exemptions. All figures are printed in large clear type.

Plating Brush

Electroplating by the brush method promises to find considerably widened industrial acceptance by reason of the

newly improved Electrolytic Brush developed in cooperation with du Pont by the Warner Electric Co., 360 N. Michigan Ave., Chicago 1. External electrodes carrying current to the graphitized brush bristles are brought close to work being plated, helping to achieve optimum current densities and bracing the bristles against undue bending.

Warner plating compounds of cadmium, chromium, copper, gold, nickel, or silver are all available in paste form to simplify jobs of touching up tank-plated work that may have become scarred or of plating products that do

Think of all you could do with a

"13TH MONTH IN '45!"

If the year were just one month longer, how much more you could do! You could see more new prospects—take more time to improve your present operations—enjoy a longer vacation—get away more often for a rest or to see "what's going on outside".

You can have that extra month if you really want it. The Edison Electronic VOICEWRITER has given a "13th month" to many a busy executive like yourself. These men have discovered, in ways they never imagined, how this modern business aid can streamline work methods and save time.

The *facts* about how the Edison Electronic VOICEWRITER can do this are well established. They are yours to examine—without obligation. All you need do is ask an Ediphone representative to come in and show them to you.

Think of it—a 13th month in 45! Yours if you want it! Take the first step now—ask your secretary to mail the convenient coupon below today.

EDISON VOICEWRITER Ediphone

Thomas A. Edison, Inc., Dept. C11, W. Orange, N. J.**

I would like to know more about the new Edison Electronic VOICEWRITER and how it can save time and streamline business operation.

Name.....

Address.....

Company.....

**In Canada, mail this coupon to Thomas A. Edison of Canada, Ltd., 29-31 Adelaide Street West, Toronto 2, Ont.

COLLOIDAL GRAPHITE *only*

Provides All These PHYSICAL and CHEMICAL PROPERTIES

1 Slippery—a Good Lubricant. Better than talc

2 Conducts Electricity

3 Withstands Temperature Extremes

4 Absorbs, Radiates and Conducts Heat

5 Maximum Purity

6 Low Coefficient of Expansion

7 Particles Bear Like Electric Charges

8 Insoluble in Acids and Alkalies

9 Black and Opaque

10 Gas Adsorbent

11 Little Photoelectric Effect

12 Miscible with Most Fluids

13 Films Adhere Tenaciously and Dry with Sharp Edges

14 Microscopically Fine Particles. Penetrates Fine Pores

15 An Excellent Suspension

Listed here are fifteen of the more important physical and chemical properties of "dag" colloidal graphite which is a smooth black liquid concentrate. It is used to obtain dry and fluid films, surface coatings and as an impregnating medium.

Specific applications are as follows: Dry films formed from "dag" colloidal graphite supply durable lubrication on parts which could not be effectively lubricated otherwise. Such films are functioning at temperatures from (—60° F. to + 1200° F.) and higher. Here properties 1, 3, 13, and 14 are utilized.

GEAR TRAIN

Graphite films when applied to the grids (and frequently the plates) of radio tubes for receiving and transmitting, are useful for minimizing secondary emission, "back" emission and photoelectric effects. Here properties 2, 3, 4, 10, 11, and 13 are utilized.

ELECTRONIC TUBES

Check this list of properties carefully in connection with the operations in your own plant. If any of the properties of "dag" colloidal graphite can make your job easier to handle, write Acheson Engineers. Let them suggest how best to apply colloidal graphite. Their experience probably includes similar applications.

Dag, Oildag, Aquadag, Castordag, Glydag and Prodag are registered trade marks of Acheson Colloids Corporation. Copr. 1944 by Acheson Colloids Corp.

dag MARK REG. U.S. PAT. OFF. COLLOIDAL PRODUCTS

ACHESON COLLOIDS CORPORATION

PORT HURON, MICHIGAN

not lend themselves to the tank method. An example of the latter is a steel, plastic-molding die that must be lined with chromium (page 63). Other examples include the renewal of electric

THINGS TO COME

Jet planes of the future, possibly with supersonic speeds for military aviation and even civilian transport purposes, will have little place in the private flyer's scheme of things. They will simply be too hot for him to handle. But jet sailplanes and jet helicopters are almost sure to be within his reach and skill (page 17).

Jet mechanisms, which may be either a renewable rocket or a revamped engine of the type used on robot bombs, will supersede a ground winch or other tow for getting a sailplane into the air.

From there on the craft will have to rely on thermals and other atmospheric updrafts to keep it moving aloft. Jet mechanisms for helicopters will operate on principles not unlike those of a revolving lawn spray.

One idea is to revolve the helicopter blades by the reaction of air furnished by an engine-driven blower and forced through the blade tips. Another idea calls for a jet engine of the turbine type to drive heated gases through the blade tips, revolving them to provide lift and forward motion.

Rubber stamps that will keep their sharp outlines through two to four times the useful life of prewar stamps are just around the corner. They will be molded out of synthetic elastomers with high resistance to the inks in stamp pads. When they are cleaned from time to time in gasoline, they will not become distorted by swelling.

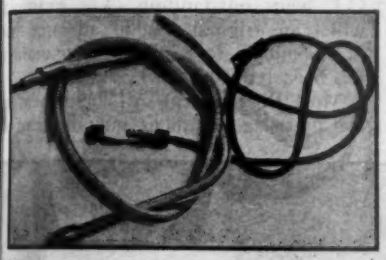
Don't be disconcerted if the tow shackles and other metal gear on your postwar boat are attached thereto without screws or through bolts. The boat builder will not only have saved time and expense but also will have given you a stauncher craft by eliminating holes for bolts and screws. The gear will have been affixed with strong new adhesives that bond metal to wood, metal to metal, or almost any other combination of materials with a fixity and permanence scarcely dreamed of before the war.

switch contacts without disassembly and the plating of trademarks and company names on the surfaces of various manufactured products.

Serpentine Heaters

Flexible "Serpentine" Electric Heat Units are the newest products of the H. & A. Mfg. Co., 86-100 Leroy Ave., Buffalo. They come in varying lengths, diameters, and capacities ranging up to 15-20 watts to the lineal inch. They are said to be capable of maintaining "exact temperatures up to 1,000F . . . without deterioration of the steel-ceramic structure."

Possible applications range from temporary improvisations for thawing out frozen pipes to permanent installations such as the de-icing of airplane engine



nacelles, the heating of melting pots, the warming of casting dies, plastic molds, whatever. Since they can be coiled in close or widely spaced turns, or eased around odd contours, they are said to have few limitations. Units may be left exposed or sealed in with insulating cement.

Hydraulic Hand Press

Newest hand tool is the "Hy-Mac" Hydro-Squeeze Gun, a miniature hydraulic press of 1½-ton capacity, about 1 ft. long and scarcely as large around as a man's wrist, developed by Hydraulic Machines, Inc., 12825 Ford Rd., Dearborn, Mich. Equipped with special adaptors for various operations, it is designed to reach into out-of-the-way places to set rivets, press in bushings, press out drift pins, dimple metal, whatever.

Power for the gun's operation comes through high-pressure hose from a separate hydraulic unit. Control is furnished by two electric switch buttons, one to each of the operator's hands for safety's sake. When both buttons are pressed at once, a solenoid is energized, opening a valve and permitting oil under pressure to move the gun's ram through a working stroke of 1½ in. When one or both buttons are released, the valve solenoid is de-energized and the ram returns to original position for succeeding squeezes.

The brush that lights a draftsman's table . .

and makes the radios he designs play better!

THE ends of fluorescent tubing must be perfectly free of all frosting or foreign matter, so that the metal end which carries the charge will contact only the insulating glass.

A little, unseen fleck could cause light failure. Osborn brushing wheels provide light insurance for fluorescent lights by positively and uniformly removing *all* such matter from the tube terminals.

Brushing played an important part in providing these draftsmen with better lighting to work on plans—plans for products which also can be improved by power brushing.

For instance—radios. Here small gears should be cleaned thoroughly to provide hairline tuning. An Osborn fine wire brush is perfect for this job. For wire stripping on the coils and numerous connections there is another Osborn brush. Removing fins from plastic parts is still another operation best done by power brushing.

Brushing wheels as developed by Osborn, 50-year pioneer and leader in the field, have been proven under wartime stress—the best tools for surface finishing operations.

In planning your new products —whatever they are—*while they are still in the drafting stage*—it will pay you to consider the tremendous versatility of Osborn brushes for finishing surfaces . . . making your product perform better, look better, sell better—at a lower unit cost!

Investigate without obligation. Contact Osborn and an expert field engineer will make a study of your operation or plans and submit specific recommendations.

THE OSBORN MANUFACTURING COMPANY

5401 HAMILTON AVENUE CLEVELAND, OHIO

Osborn Brushes

WORLD'S LARGEST MANUFACTURER OF BRUSHES FOR INDUSTRY

FINANCE (THE MARKETS—PAGE 118)

G.I. Loan Rules

Veterans soon may obtain money for homes, farms, small businesses. Regulations for home loans are announced.

Already the country has about 1,250,000 Army-Navy dischargees. Every day another 1,000 servicemen are shedding their blue or khaki to don civies again, and from here on the discharge-rate will rise rapidly.

• **Little Difficulty Now**—Thus far veterans' job troubles have been few. Many have been quick to apply for their old jobs. Others, wanting a change of scenery, have taken advantage of the sellers' market created by manpower shortages and have found new positions easily.

But all these former soldiers and sailors are very well aware of the G.I. Bill of Rights (the Servicemen's Readjustment Act of 1944) which empowers the Veterans Administration to guarantee loans made by banks or others to any veteran desiring to purchase, build, or alter a house, to buy a farm and farm equipment, or to set himself up as the proprietor of a small business.

• **Flood of Inquiries**—An ever-increasing number of returning servicemen ever since the bill's passage last June have been asking banks for the loans they have been "promised" under the legislation, or flooding their draft boards and Washington with inquiries.

The businessmen expecting to deal with the veterans—money lenders, real estate dealers, retailers, and employers alike—have likewise been diligently seeking similar details.

Much misunderstanding has arisen about the loans. This is mainly because of the time required by the Veterans Administration to complete the stiff job of preparing loan regulations and procedure.

• **First Set of Rules**—Answers to some of the questions, however, have finally become available. Last week the Veterans Administration published the first section of the rules and regulations. These specifically apply to those G.I. loans desired to purchase, build, repair or alter "residential propeity owned by the veteran and used by him as his home," or to pay off delinquent indebtedness or taxes on such property.

Official forms which the veteran and lender must use are still in the hands of the public printer but are expected to be ready for distribution shortly.

• **Priority Basis**—Already a number of lending institutions have announced themselves ready to receive veterans' inquiries on home loans and to process the applications on a priority basis.

To be eligible for a home loan, a veteran (male or female) must have served in the armed forces between Sept. 16, 1940, and the officially declared termination of the war and must have been released under conditions other than dishonorable after at least 90 days' active service unless discharged earlier because of injury or disability incurred in service in line of duty.

Application for any such loans must be made by veterans within two years after their discharge or within two years after the war's official close, whichever is later.

• **No Loose Lending**—Under the bill, any dwelling consisting of not over four family units or any combination dwelling and business property primarily used by the veteran as his home will be considered a "residential property."

However, the loan regulations plainly indicate that no loose and easy lending policies will be encouraged.

No direct government loans are contemplated, though in some cases government agencies may become involved. All loans in excess of $500 must be secured by a mortgage, and there is to be no straight blanket guarantee by the government of $2,000 of the loan.

• **Guarantee Is Limited**—The Veterans Administration is empowered to guarantee only 50% of the G.I. loans made by private lenders up to a maximum guarantee of $2,000. Moreover, this maximum is to cover all loans made to a veteran under provisions of the G.I. Bill of Rights, whether obtained to build a house, to acquire farm equipment, or to buy a business.

Never is the guarantee of this debt to exceed 50% of the total amount of the G.I. loans outstanding. For example, when an original $4,000 advance has been paid off to $3,000, the guarantee has been reduced to $1,500.

• **Must Be Practical**—All loans bearing the partial government guarantee must

PLENTY OF NUMBERS

Begun last summer, the task of refunding Commonwealth Edison's old bonds (BW—Aug.12'44,p68) has been one of intricate financial and legal details. Capping complexities were final mechanics of the deal, culminating in the presentation of a $160,928,750 check by Harold L. Stuart (left), president of Halsey, Stuart & Co., to Charles Y. Freeman, Commonwealth Edison chairman. The finale involved three simultaneous meetings—two in Chicago, one in New York. As Stuart handed over the check—payment for the new bonds—Edison representatives gave Continental Illinois, as trustee, two checks totaling $189,473,220 to retire the old. The maneuver signaled New York to deliver a large part of the new bonds to investors.

HERO ★★★

Soon he'll be home from the wars—triumphantly home . . . to what?

The cold facts are these:

Nearly one-third of our fighting men are returning to "homes" that are without running water . . . 35 per cent of the dwelling units in this country are without sanitary plumbing or bathing facilities of any kind . . . and American slums have bred the highest rate of juvenile crime in our history.

In short, there's still a war to be won here at home!

Our weapons are the mightiest on earth. Our manufacturing productivity is equal to half the world's total capacity . . . our basic economy and our currency are sound . . . and our faith in the American Ideal is stronger than ever before.

The time to start fighting that war is now. Delay could mean defeat, and the loss of all that our sons have fought and died for. Victory will mean a great new age of peace and prosperity, with jobs and security for all.

The engineers of the basic machine tool producers can help the men of government and of industry to win that victory . . . to plan now the reconversion of our tremendous wealth of resources, skills and machinery to all-out production for a better America!

One of these engineers is a Bryant man. We urge you to call him in today.

BRYANT CHUCKING GRINDER COMPANY SPRINGFIELD VERMONT, U.S.A.

NEW INVESTORS

Those with idle funds or inheritances, for the first time, will find this book especially informative.

It presents clearly and concisely what a broker can do for you, explains terms, details costs and includes other pertinent data as indicated by the following chapter headings:

OPENING AND OPERATING AN ACCOUNT
WHAT TO EXPECT OF YOUR BROKER
TABLE OF COMMISSION RATES
FEDERAL AND NEW YORK STATE TRANSFER TAXES
FINANCIAL GLOSSARY

These are supplemented by sub-headings designed to assist you in the proper handling of your account.

What to buy depends on your requirements which should be carefully considered We'll welcome your letter requesting "Security Transactions." Write for booklet BU 16.

HORNBLOWER & WEEKS

40 Wall Street
New York 5, N. Y.

Since 1888—Financial Service Adapted to Your Requirements

Members Important Exchanges

Offices:
New York; Boston; Chicago; Cleveland; Philadelphia; Detroit; Portland, Me.; Providence; Baltimore; Bangor

be made on mortgage terms that bear a proper relation to the borrower's present and anticipated income and expenses. They must appear "practical" also and be based on a "reasonable normal value—determined by proper appraisal."

The veterans' agency doesn't object to the G.I.'s "assuming a reasonable business risk" in buying property with the proceeds of a loan partially guaranteed by the government. It does object to the vet's assuming any "undue speculative or other hazards."

● **Monthly Payments**—Generally speaking, all home loans made under the bill are to be repaid within 20 years, with payments amortized either monthly or yearly. However, where the total amount lent is less than 66⅔% of appraised value, the guaranteed loan may be a straight mortgage for a period not to exceed five years.

Of particular interest to both bor-

BUT LITTLE TO BUY

Heading China's list of public enemies is Japan; next is inflation. How far China's currency has dropped in purchasing power is illustrated graphically in Kunming where a coolie (right) emerges from the Bank of China under a staggering load of paper money. He is hired by a merchant to follow him around while transacting business. Also typical are two Chinese-American G.I.s on a date; a shopping bag is necessary to carry the money to finance a movie, and a dinner. Officially listed at 40 to the U. S. dollar, the Chinese dollar suffers even worse depreciation on the black market exchange. Thus a newspaper costs $10 in Chinese money, an electric light bulb $600. Adding to the chaos is the unbalance in wages; some workers can demand wages to keep abreast of rising prices; others with fixed salaries are being forced into free rice lines to

survive. And the Chinese will undoubtedly continue to suck the dry fruits of history's worst inflation until Allied forces open a seaport where enough basic civilian supplies can be delivered to ease the crisis.

ower and lender is the provision permitting "second loans."

Where a principal mortgage loan is made, guaranteed, or insured by a federal agency (such as the Federal Housing Administration, for example) and a second loan is needed by the veteran to cover the full purchase price of his home, the administration is ready to guarantee such a second loan in full, provided it does not exceed 20% of the full purchase price or that the transaction does not raise all Veterans Administration guarantees to a veteran above the $2,000-level.

• **Ceiling on Interest**—Such a transaction gives the lender a 100% guaranteed loan, split 80-20 between the FHA and the veterans' agency.

Other provisions provide that such FHA loans are not to carry an interest rate in excess of 4½% and that not over a 4% rate may prevail on the second loans. Veterans are not to pay over 4% on any other Veterans Administration loans, and the amount of other loan charges they are called upon to pay cannot exceed the actual cost to the lender.

Both man and wife, if each is an eligible veteran, can arrange for loans carrying two separate $2,000 guarantees, and further aid is also extended the borrowing G.I.s by a provision calling upon the Veterans Administration to pay for the first year of the loan the interest on the portion it has guaranteed.

• **Lenders Are Ready**—On the whole, the regulations covering the G.I. home loans have been considered satisfactory by the commercial banks, the savings institutions, and the building and loan associations.

The Veterans Administration expects to have its machinery in a position soon to handle actual closings of G.I. home loan applications.

• **Others in the Works**—Regulations covering the farm and farm equipment loans and the business loans also authorized under the G.I. Bill of Rights are still in the works. However, their completion shouldn't take very long now.

The farm and business loans are going to be just as carefully made as the home loans. Those wanting to purchase farms, farm equipment, or business properties, for one thing, are going to have to convince the Veterans Administration that they have had enough ability and earlier experience in the lines involved to warrant its making the loan.

• **May Reach High Total**—Estimates of the possible amount of loans which may be made under the G.I. Bill of Rights currently range anywhere from 2,000,000 loans aggregating $10,000,000 to 5,000,000 transactions involving as much as $25,000,000.

This is under no circumstances to be construed as an offering of these Debentures for sale, or as an offer to buy, or as a solicitation of an offer to buy, any of such Debentures. The offer is made only by means of the Prospectus.

$100,000,000

The American Tobacco Company

Twenty-five Year 3% Debentures

Dated October 15, 1944 *Due October 15, 1969*

Price 101% and Accrued Interest

Copies of the Prospectus may be obtained from only such of the undersigned as may legally offer these Debentures in compliance with the securities laws of the respective States.

MORGAN STANLEY & CO.

SMITH, BARNEY & CO. THE FIRST BOSTON CORPORATION

MELLON SECURITIES CORPORATION HARRIMAN RIPLEY & CO. Incorporated

BLYTH & CO., INC. KIDDER, PEABODY & CO. LEHMAN BROTHERS

GOLDMAN, SACHS & CO. UNION SECURITIES CORPORATION

F. S. MOSELEY & CO. LAZARD FRERES & CO.

LEE HIGGINSON CORPORATION DREXEL & CO.

STONE & WEBSTER AND BLODGET Incorporated WHITE, WELD & CO.

Dated October 26, 1944.

For people who won't have money to BURN . . .

"YORK HEAT" is more than a name-plate on a piece of machinery. It is your guarantee of complete satisfaction in oil-heating after the war. It will pay dividends, year in and year out, on savings carefully earmarked for better living, when peace comes.

York Heat offers the most complete line of domestic, commercial, and industrial oil-burning equipment in America. It includes a unit tailor-made to your needs, efficient, reliable, and *economical* beyond all precedent.

The York distributor in your community is just as dependable as the equipment we manufacture. He will see that your heating dollars are invested to best advantage.

YORK HEAT

Division of YORK-SHIPLEY, INC., YORK, PA.

MEMBER OIL HEAT INSTITUTE OF AMERICA

LET'S FINISH THE JOB *RIGHT*, BY BUYING MORE BONDS!

...this story from California should interest you — There are two parts to this story.

The first is about the tremendous growth of California which in population is today America's third largest state and the West's greatest market.

The second part of the story concerns Bank of America's position in this market; how today this bank, with branches in more than 300 California communities, serves not only all of California, but the interests of business executives and bankers everywhere who have a "stake" in this vital present and post-war market.

Your inquiries are cordially invited.

RESOURCES *(June 30, 1944)* . . . $3,975,493,006.15

California's statewide bank

Bank of America
NATIONAL TRUST AND SAVINGS ASSOCIATION

Member Federal Deposit Insurance Corporation • Member Federal Reserve System

Main Offices in the two reserve cities of California...San Francisco - Los Angeles

Rate Wars Loom

Omaha and Kansas City threaten action unless charges for electric light and power are sharply reduced.

Officials of two of the Farm Belt's biggest cities, Omaha and Kansas City, consider the rates charged to consumers for electric light and power too high, and each has just served notice on the privately owned utility system serving its area that rates must be reduced sharply.

• **Lowered Valuation**—In Omaha, where there has recently been agitation for municipal ownership (BW—Oct.14'44, p18) the demand for lower rates is based on a reduced valuation on the Nebraska Power Co.'s properties just released by the Federal Power Commission, and city officials say they will start condemnation proceedings unless the rates are adjusted.

The FPC reported late last month that it had just received from Nebraska Power a revised study fixing $27,777,000 as the "original cost" of its properties on Jan. 1, 1938, or some $8,862,000 less than the figure at which such facilities had been carried on the company's books.

• **May Seek $1,000,000 Slash**—Omaha's Mayor Dan Butler believes a rate reduction of "as much as a million dollars annually" may be in order. The Omaha city council will soon decide whether a lower rate schedule should be worked out by the city with the help of qualified experts or arrived at through direct negotiations with the power company.

• **Kansas City Profit**—Kansas City has come to the conclusion that its citizens are paying too much for electric light and power on the basis of a report recently submitted by Dr. John Bauer, a New York public utility consultant, who was hired by the city some time ago to make a study of the Kansas City Power & Light Co.'s financial and rate structures.

According to Bauer's figures, excess revenues of some $2,217,000 were collected from Kansas City power consumers last year on the basis of the 6.5% return which the Missouri Public Service Commission for many years has allowed as a fair rate of profit to the public utility company.

• **Conference Called**—Engineers and accountants of the Missouri commission are also reported to be investigating Kansas City Power & Light's rate structure.

There is no indication, however, that

the city will await completion of that investigation.

Instead, a conference is scheduled to be held soon between company and Kansas City officials, after which rate reduction recommendations will be made to the city council.

K.C.S. Ry. Unifies

"Main Street" management obtains stockholders' O.K. for acquiring seven subsidiaries as means to trim operating costs.

Since control of the Kansas City Southern Ry. and its important Louisiana Arkansas subsidiary system passed from New York's Wall Street to "Main Street" in the road's territory after much excitement last spring (BW—Apr.8'44,p104), W. N. Deramus, president, and his home-folk directorate have been concentrating on building up and unifying the various K.C.S.-owned properties and aiding in industrialization of its area.

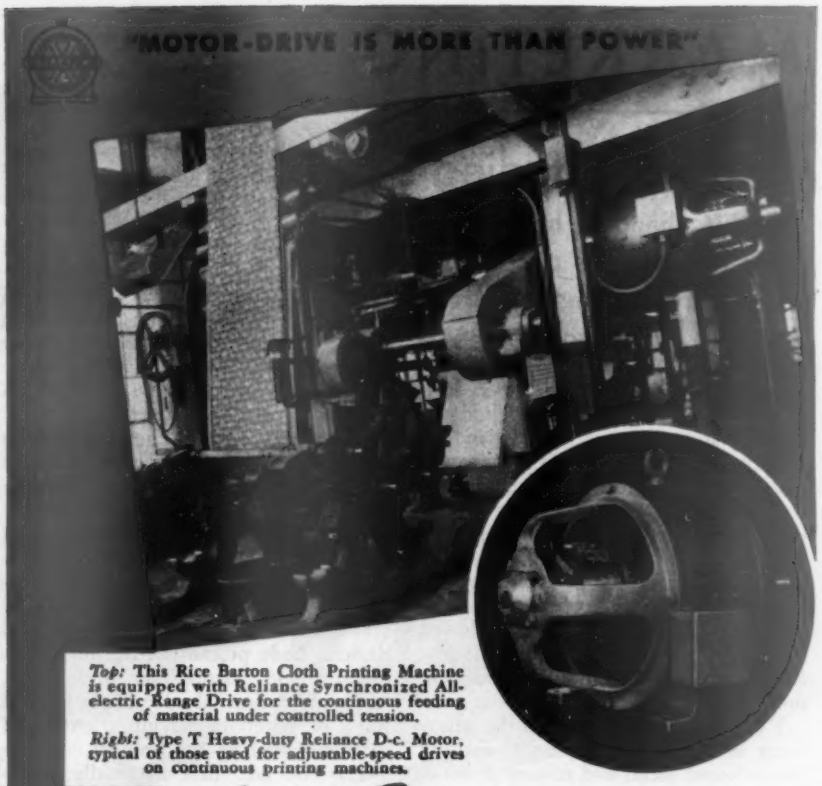
• **Operating Economies**—Their latest move was completed this week when K.C.S. stockholders, with operating economies in mind, voted permission for the management to acquire the properties of seven wholly owned bridge, terminal, warehouse, and branch-line subsidiaries and assume some $2,900,000 of their bond obligations.

Operations of the K.C.S. and the L. & A. are now being handled at a savings in costs by a single official setup instead of the double set formerly maintained under the old control. The proposed eventual unification of the two properties should prove relatively easy since all L. & A.'s stock is held by the parent and it has outstanding publicly only some $15,000,000 of first mortgage bonds.

• **May Be Delayed**—However, two or three years are likely to elapse before such a merger is an accomplished fact since L. & A. formerly maintained its headquarters in Louisiana, and Deramus doesn't want to offend the territory it serves by suddenly centralizing virtually all operating authority in Kansas City.

Realizing the rail industry's need for good public relations, the management is seeking to cement the friendship between the K.C.S. and the territory it serves.

• **Sponsor Broadcasts**—For some time the road has been purchasing radio time for public service uses. It is currently sponsoring football broadcasts in its area, as well as a 30-minute weekly broadcast of Kansas City Philharmonic orchestra concerts.



Top: This Rice Barton Cloth Printing Machine is equipped with Reliance Synchronized All-electric Range Drive for the continuous feeding of material under controlled tension.

Right: Type T Heavy-duty Reliance D-c. Motor, typical of those used for adjustable-speed drives on continuous printing machines.

Only a Few **"BUSINESS WEEK" READERS NEED CLOTH-PRINTING MACHINES**

But Thousands Want Higher Speed Operation . . . Automatically Maintained Tension . . . Centralized Push-Button Control

That this cloth-printing machine, driven and controlled by means of Reliance Motor-drive, delivers top quality results at printing speeds of 300 yards per minute may not be important to you.

But you may be decidedly interested in the fact that higher operating speeds, increased volume of output, improved quality and uniformity of finished product and lower operating costs can be obtained in many types of production machines in many industries through the proper application of electric Motor-drive. These results are secured by making use of characteristics inherent in Reliance Motor-drive.

If you are looking for new and better ways of getting things done in your plant, it will pay you to talk with a Reliance sales engineer.

RELIANCE ELECTRIC & ENGINEERING CO.

1069 Ivanhoe Road • Cleveland, Ohio

Birmingham • Boston • Buffalo • Chicago • Cincinnati • Detroit • Greenville (S. C.) Houston • Kalamazoo • Los Angeles • Minneapolis • New York • Philadelphia Pittsburgh • Portland (Ore.) • St. Louis • San Francisco • Syracuse • Washington, D. C. and other principal cities.

RELIANCE A-C D-C MOTORS

MARKETING

Ad Costs Studied

FTC handles hot subject gingerly, sidesteps price issue. Meat of report deals with 91 industries' selling costs.

In more normal times, the Federal Trade Commission's long-awaited report on advertising as a factor in distribution (BW—Oct.28'44,p7) would almost certainly become a statistical storm center in the continuing controversy between the advertising industry and organized consumer groups.

• **Interest Lags**—As it is, the report has been issued at a time when preoccupation with the war has overshadowed traditional differences—and when general prosperity has blunted the consumer's interest in where his dollar goes.

FTC gives little support to the advertising industry's claims that advertising carries broad social and economic benefits in its wake. But advertisers may be solaced by the fact that the commission has not gone out of its way to stir up consumers' wrath.

• **Soft Pedals Prices**—FTC's long-standing willingness to let sleeping dogs lie is exemplified by its gingerly handling of the hottest subject of all—the effect of advertising on prices. The commission makes the statement that "the long-run source of advertising funds is the price paid by consumers for products," then spends the next several pages of the report backing away from it.

The agency's final statement is that it is impossible to judge whether advertising raises, lowers, or has no effect on the prices paid by consumers.

• **Difficulties Cited**—The commission gives these two principal reasons for its failure to come to a definite conclusion:

(1) The difficulty of tracing all the advertising costs which go into a finished product. To be complete, a list of such costs would include the direct advertising of the finished product to the consumer by the manufacturer and dealers, trade promotion by the manufacturer and possibly by middlemen, trade and industrial advertising by suppliers of materials, machines, etc., used in manufacturing the product.

(2) The fact that nationally advertised brands are frequently sold as loss leaders, thus eliminating the basis for a comparison of prices of advertised and unadvertised brands.

• **Industries Studied**—The meatiest section of the report is the commission's comparison of manufacturers' advertising and selling expense per dollar of net sales in 91 industries (box, page 78). This study covers the advertising pattern of 2,717 companies for 1940.

FTC finds that advertising expense ranged from a low of 0.06% of net sales in the shipbuilding industry to a high of 13.94% for manufacturers of drugs and medicine. In general, capital goods industries and processors of raw materials which go through further fabrication before they reach the consumer spent the least money on advertising, while makers of finished consumer goods spent the most.

• **How They Rank**—The five smallest advertisers ranked like this: shipbuilding, crude petroleum (0.08%), merchant pig iron (0.15%), copper smelting and refining (0.16%), cane sugar refining (0.17%).

The five highest ranked: drugs and medicines (13.94%), cereal preparations (13.08%), cigarettes (11.30%), soaps and cooking fats (10.94%), distilled liquors (9.79%).

• **Some Exceptions**—Industries with low advertising expenses generally had low selling and delivery costs, hence low total distribution costs (advertising, selling, and delivery). Conversely, industries with heavy advertising expenses tended to show heavy total distribution costs.

The most striking exception to this pattern is the sewing machine industry. With comparatively low advertising expenditures (0.98%), the industry ranked highest in total distribution costs (36.53%). Beet sugar and match manufacturers and makers of special industry machines were other industries with low advertising budgets and heavy distribution costs.

• **Drug Industry Third**—FTC's figures give no support, however, to the theory that the manufacturer who lays out big money for advertising can make it up

FIRST OF TWO REPORTS

The first section of the Federal Trade Commission's study of advertising as a factor in distribution costs is devoted to general discussion with specific figures on the advertising and selling costs of 91 industries.

The second section of the study, on which Business Week will report next week, deals with cooperative advertising—the allowances, discounts, and other concessions which manufacturers make to dealers in an effort to carry their sales message right through to the point of sale (BW—Oct.28'44,p7).

OUT OF THE ARMY

On sale at Mt. Rainier Ordnance Depot, Tacoma, Wash., long lines of surplus Army command cars get critical inspections by auto dealers. These are only a few of the 19,000 vehicles of truck classification which the Treasury's Office of Surplus Property recently placed on the market (BW—Sep.16'44,p50). One big prospective buyer—the city of Seattle—has decided against buying Army trucks because parts are unavailable. Besides the fleet of dun-colored cars, priced from $500 to $825, as is, the depot has about 1,000 of the 9,000 motorcycles being discharged from service.

IT'S YOUR POSTWAR ELECTRICAL HOME

—See that it works!

THINK of your electrified home to come . . . big and little appliances of all kinds . . . advanced heating . . . air-conditioning . . . better lighting . . . television . . . All fine servants—but they will be handicapped if you give them insufficient electrical capacity.

So often electrical wiring plans are based on *past* electrical experience—a poor guide to the needs of peak loads to come. It's far safer to plan *reserve* capacity in line with the huge future increase in electrical usage. You'll save yourself plenty of grief later in breakdowns and expensive alterations.

Manufacturers! Apply this in terms of industrial equipment in *your* business. The problem's the same. Make sure you have ample electrical capacity to meet the huge future increases in electrical usage sure to come. In plants too, planned wiring will cost a lot less than unplanned wiring.

Before structures get out of the planning stage, it will pay to consult electrical contractor, utility power engineer, plant power engineer. They'll agree that it's always wiser to *Wire Ahead!*

ANACONDA WIRE & CABLE COMPANY

25 Broadway, New York 4 . . . Sales Offices in Principal Cities

It's Always Wiser to TELEGRAM WIRE TELEGRAM AHEAD

ANACONDA

Choose the RIGHT name!

Upon the integrity of a name depends your choice! From the name-labels on deeds, words and characters come your appraisal of the name of your election.

Anonymity seldom goes with integrity. That's why it is essential to mark names on merchandise if customers are to make a choice.

Kaumagraph Products and Methods have been helping bring honor to names on good products for over 40 years. To learn about Kaumagraph markings tell us the nature of the surface upon which your name, trademark or informative data should go.

Identification headquarters since 1902

KAUMAGRAPH

KAUMAGRAPH CO., 1310 POPLAR ST., WILMINGTON, DEL.
NEW YORK OFFICE • EMPIRE STATE BUILDING, N.Y. 1

Information

ON PENN SALT PRODUCTS of interest to many industries

Detailed information is available in pamphlet form on the following products. Check the booklet or booklets you want us to send you without obligation. Write TODAY to Dept. BW.

AMMONIA for Refrigeration
AMMONIA for Heat Treating
ANHYDROUS HYDROFLUORIC ACID for high-octane gasoline
B-K CHLORINE BACTERICIDE for Farm, Dairy and Poultry Sanitation
CAUSTIC SODA
CHLORINE
KRYOCIDE Agricultural Insecticides
KRYOLITH Flux for Glass and Ceramic Industries
LAUNDRY & DRY CLEANING ALKALIES, SOURS AND BLUES
PENNSALT CORROSION-RESISTANT CEMENTS
PENNSALT CLEANERS for the Metal Industries
PER*CHLOR*ON for Water Treatment
PER*CHLOR*ON & TILITE for Swimming Pools

PENNSYLVANIA SALT MANUFACTURING COMPANY
Chemicals
1000 WIDENER BUILDING, PHILADELPHIA 7, PA.

New York • Chicago • St. Louis • Pittsburgh
Cincinnati • Minneapolis • Wyandotte
Tacoma

by shaving other selling costs. The drug industry, No. 1 advertiser percentagewise, ranked third in total distribution costs. Cereals, soaps and cooking fats, distilled liquors, beer, biscuits and crackers, bread and bakery products, office and store machines were other big advertisers with high distribution costs.

Fruit and vegetable canners were the most outstanding example of an industry with a heavy advertising budget but moderate distribution costs.

● **Most for the Money?**—FTC hints that the automotive industry, third biggest peacetime advertiser in dollar volume (food is No. 1, drugs No. 2), is getting proportionately more for its ad-

Distribution Costs—Percentagewise

Of the 91 industry groups whose distribution costs have been surveyed by the Federal Trade Commission, the 49 shown below had advertising costs in excess of 1% of net sales. The 42 not shown—those that spent less than 1% on advertising—are made up largely of heavy goods industries. It is significant that for only four of these 42, total distribution expense (advertising, selling, and delivery cost) exceeded 10%. They are: sewing machines, 36.53%; match manufacturing, 13.03%; beet sugar manufacturing, 13.02%; and special industry machines, 10.56%.

Industry	*Number of Companies*	*Advertising Cost (%)*	*Selling and Delivery Cost (%)*	*Total Distribution Cost (%)*
Elevators, escalators, and conveyors	22	1.04	7.75	8.79
Hardware	35	1.06	8.38	9.44
Mechanical stokers	9	1.07	8.16	9.23
Milk and milk products	122	1.10	12.44	13.54
Cranes, dredges, and road equipment	29	1.11	10.25	11.36
Glass and glassware	22	1.25	6.36	7.61
Petroleum refining	40	1.25	12.51	13.76
Agricultural machinery and tractors	20	1.33	10.79	12.12
Internal combustion engines	13	1.33	7.16	8.49
Food products machinery	23	1.50	14.01	15.51
Water softening equipment	19	1.55	11.46	13.01
Gypsum products	9	1.57	9.62	11.19
Electrical machinery and apparatus	49	1.58	9.13	10.71
Asbestos and abrasive products	32	1.59	12.20	13.79
Furniture	71	1.59	8.85	10.44
Footwear (except rubber) sold through own stores	10	1.60	14.20	15.80
Pumps and air compressors	20	1.61	12.71	14.32
Firearms and ammunition	12	1.68	4.82	6.50
Men's and boys' clothing—sold direct to wearer	3	1.70	18.50	20.20
Smelting and refining equipment	7	1.72	9.07	10.79
Commercial laundry, dry cleaning, pressing equipment	6	1.84	17.51	19.35
Motor vehicles	23	1.94	3.29	5.23
Corn products	11	2.00	6.26	8.26
Footwear (except rubber) sold to non-affiliated distributors	28	2.00	8.40	10.40
Refrigerators and air-conditioning equipment	21	2.02	8.45	10.47
Rubber products	29	2.07	12.20	14.27
Paving and roofing materials	18	2.08	10.97	13.05
Mechanical measuring instruments	10	2.17	13.15	15.32
Heating and cooking apparatus	39	2.20	12.63	14.83
Wool carpets and rugs	21	2.30	7.21	9.51
Paint, varnish, and lacquer	40	2.46	13.33	15.79
Biscuits and crackers	7	2.60	23.23	25.83
Blowers and exhaust fans	10	2.62	9.91	12.53
Bread and bakery products	82	2.63	24.24	26.87
Office and store machines	20	2.63	26.72	29.35
Flour milling	22	3.03	6.22	9.25
Wallboard, building insulation, floor composition	15	3.45	13.00	16.45
Men's and boys' clothing—sold to trade	21	3.60	6.40	10.00
Linoleum and hard surface floor covering	10	3.67	8.78	12.45
Men's and boys' clothing—sold through own stores	5	4.20	20.90	25.10
Cigars	12	5.40	7.40	12.80
Fruit and vegetable canning	49	4.49	6.87	11.36
Tobacco products	6	8.20	10.60	18.80
Malt beverages	41	8.97	15.70	24.67
Distilled liquors	14	9.79	10.52	20.31
Soaps and cooking fats	20	10.94	8.89	19.83
Cigarettes	10	11.30	4.60	15.90
Cereal preparations	14	13.08	5.77	18.85
Drugs and medicines	20	13.94	13.41	27.35

Abrasive Discs: full range of grades and grains for sanding or surfacing metal, wood, stone or tile with any of the Black & Decker Sander Models.
Grease-sealed ball bearing set in steel insert.
Patented spindle lock for speed and ease in changing accessories.
Needle roller bearing.
Reversible side handle for right or left hand use.
Spiral beveled gears of heat-treated alloy steel, lapped and matched, mounted on spline spindles for greater strength and elimination of keys. Made by Black & Decker.
Flexible backing pad for sanding, for rubbing and buffing operations.
Grease-sealed ball bearing set in steel insert.
Strap metal stand.
Heavy-duty ground-thread spindle on which abrasive discs, pads, grinding wheels, wire cup brushes and planer heads are accurately mounted.
Housings cast of high-grade aluminum and accurately machined for interchangeability.
Full-power Universal motor. Built by Black & Decker.
Full-size heat-treated aluminum fan and ample ventilating slots for cool operation.
Dust seal protects commutator and bearings; air inlet ahead of dust seal.
Commutator and brush inspection plate.
Cartridge-type brush holder; brushes accessible for inspection.
Grease-sealed ball bearing set in steel insert.
Two-pole heavy-duty enclosed switch, sealed against abrasive dust.
Guard protects plunger from accidental contact.
Shaped handle for better balance and ease of operation.
Cable clamp and cord protector prevent strain and kinking.

Check These Features of Black & Decker Sanders

—engineered for peak performance

ONE of the most versatile tools in the complete Black & Decker line is the husky Black & Decker Portable Electric Sander. The same tool that does such an efficient job of sanding metal, wood, stone or tile converts quickly and easily into a tool for grinding, wire brushing, planing or buffing.

And Black & Decker Sanders can take it! They've got the power, stamina and speed to keep going on continuous, heavy-duty production or maintenance work —to turn out better work, *faster*. That's because each part in every Black & Decker Tool is specifically designed and made for the job it has to do. For example, the spiral bevel gears in Black & Decker Sanders are cut in matched pairs. Each pair is carefully lapped together until they mesh perfectly. The result is pair after pair of flawlessly matched gears—made completely by Black & Decker—for a smooth, quiet flow of power from motor to spindle.

Next time you buy electric tools, get the *extra* satisfaction that's built into every product of Black & Decker—world's largest manufacturer of portable electric tools. There's a Black & Decker Distributor near you as a source of information and supply. The Black & Decker Mfg. Co., Dept. 511, Towson 4, Md.

The Service you get out of tools depends on what's built into them

7" Special Ball-Bearing Sander illustrated . . $53

7" Heavy-Duty at $65 and 9" Heavy-Duty at $78.

Put Your Insurance In Balance

A. T. COATE
President and Founder

Insurance supervisory service long ago justified itself, as witness the forty-three continuous years' experience of the Insurance Audit & Inspection Company, which after all that time is still expanding. We have more clients today than ever before.

Why is this? It is because more and more business institutions of every kind are learning that the establishment of an adequate business and property insurance portfolio is of enough importance to call for the service of specialists — the kind of service we render.

Such insurance is very complicated . . . policies may conflict with each other or nullify one another . . . certain risks may not be covered at all, or for too much or not enough . . . in many ways the portfolio may be out of balance . . . but if it is under our constant supervision throughout the year it will be in complete harmony.

We have clients in thirty-six States and in every case our clients' interests are our only concern. We have no connection with any insurance company or agency.

One of our field representatives will call on you to explain our services without cost or obligation to you if you will write to us.

INSURANCE AUDIT & INSPECTION COMPANY

814 Hume-Mansur Building Indianapolis 4, Indiana

ESTABLISHED IN 1901

How Penicillin is Dried with

In the $1,750,000 plant of the Commercial Solvents Corporation at Terre Haute, Ind., penicillin is dried to the nth degree by the new vacuum diffusion process. This method, developed by the National Research Corporation, combines the highest vacuum ever applied to commercial drying work (one hundred-thousandth of an atmosphere) with very low temperatures (down to minus 75 deg. F.), which are maintained with Frick 2-stage Refrigeration. The striking success of this and other installations for making penicillin brought an order from our Russian Allies for four similar Frick plants for drying blood plasma.

Before you buy any commercial refrigerating, ice-making or air conditioning equipment, get in touch with your Frick Branch or Distributor. Write now for literature and estimates.

FRICK COMPANY, Waynesboro, Penna., U.S.A.

FRICK Refrigeration

vertising dollar than any other. Advertising expenses of motor vehicle manufacturers were 1.94 cents per dollar of net sales.

The FTC hinted in a previous report in its series on distribution costs that the food industry spends too much for advertising (BW—Dec.4'43,p94).

• **On Direct Selling**—The commission's breakdown of the men's clothing industry showed, interestingly enough, that private brand operations do not spectacularly eliminate distribution costs.

Thus, manufacturers of men's and boys' clothing sold direct to the trade had total distribution costs of 10% (to which will be added the distribution costs—and the profits—of wholesalers and retailers), while makers of clothing sold direct to the wearer (mail-order houses) had costs of 20.20%. Manufacturers who sold the clothing through their own outlets had costs of 25.10%.

WET BLANKET

Chicago's Maxwell St. market, where bargaining has always superseded posted prices, is confounded. Cold to tradition, OPA is demanding that the merchants display ceiling prices, not use them merely as final pegs in selling arguments. Consider the case of the used bicycle dealer who was visited last week by Rae Walters, regional OPA administrator, and Marion Isbell, Chicago director. The merchant, OPA men said, asked $50 for a bike, was told the ceiling was $28. "Is it a sin to ask?" questioned the dealer, adding that he always asked $50, always got $28, and thus never violated price ceilings.

Dynasty in Radio

Cowles brothers, already an important factor in publishing, are intrenching themselves in radio and television.

A new dynasty in communications is making itself heard in the uproars over the approaching reallocation of airwave channels and the standards upon which television service will be presented immediately after the war. It is the Cowles (pronounced "Coles") brothers of Des Moines and Minneapolis. John and Gardner, Jr., have greatly increased their original publishing interests, are now in radio with all four feet, plan to expand mightily in both fields.

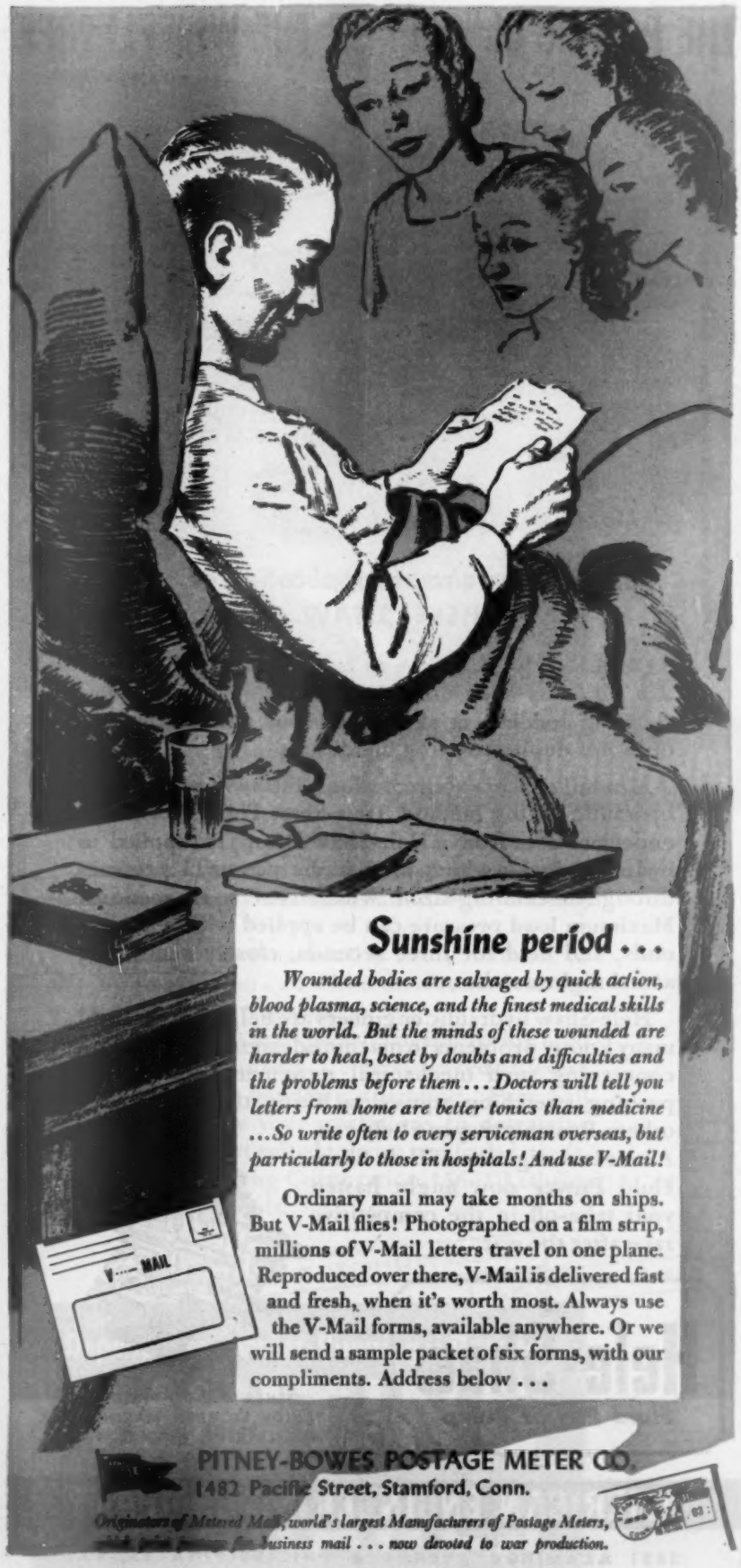
• **Craven Engaged**—The Cowles Broadcasting Co., headed by Gardner, Jr. (better known as Mike), recently bolstered its topside personnel by hiring as chief engineer T. A. M. Craven, former member of the Federal Communications Commission and one of the nation's outstanding radio and television experts.

This company has backed the Columbia Broadcasting System in its battle to include wartime advances in immediate postwar television rather than to confine service to prewar standards which would protect the owners of receiving sets now in use (BW—Oct.14'44,p88).

• **Navy Fixture**—Craven appeared before recent hearings of the FCC, giving his opinions on allocations for frequency modulation and for television. There has been a T. A. M. Craven in the U. S. Navy since the time of John Paul Jones. The multiple initials stand for Tunis Augustus Macdonough. Current bearer of the name retired from the Navy as a lieutenant commander in 1930 to become a private engineering consultant. He went to the FCC in 1935, stayed there until July 1 this year when he was snapped up by the Cowles brothers.

• **Integrated System**—The Cowles fraternity has newspaper monopolies in Des Moines and Minneapolis. Their profitable picture magazine, Look, has been reinforced by a series of pictorial books. Movie shorts provide them another national audience. These enterprises, plus their five radio stations, give the brothers an integrated communications combination which employs 3,500 people and grosses $25,000,000 annually.

In recent months the Cowles have reshuffled their radio properties. They got rid of some stations to comply with the FCC's "duopoly" ruling (BW—Jun.10 '44,p82) that only one station may be



Sunshine period . . .

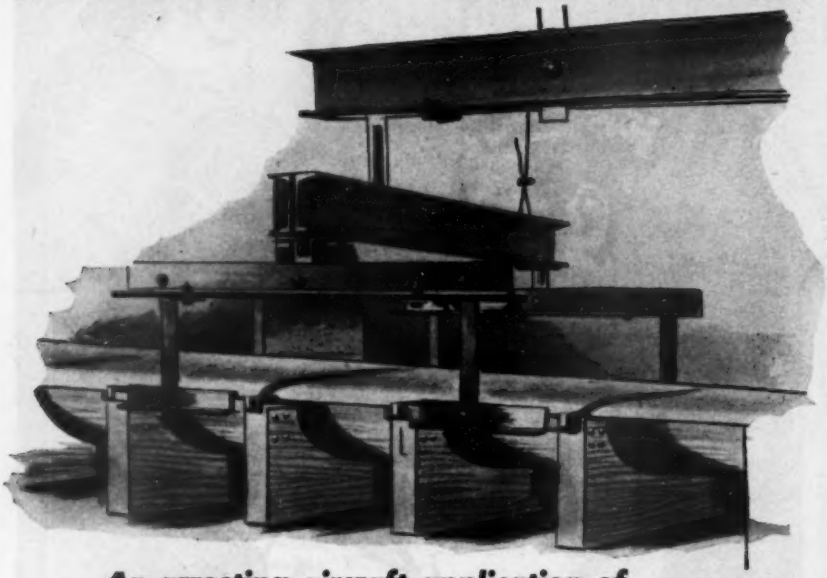
Wounded bodies are salvaged by quick action, blood plasma, science, and the finest medical skills in the world. But the minds of these wounded are harder to heal, beset by doubts and difficulties and the problems before them . . . Doctors will tell you letters from home are better tonics than medicine . . . So write often to every serviceman overseas, but particularly to those in hospitals! And use V-Mail!

Ordinary mail may take months on ships. But V-Mail flies! Photographed on a film strip, millions of V-Mail letters travel on one plane. Reproduced over there, V-Mail is delivered fast and fresh, when it's worth most. Always use the V-Mail forms, available anywhere. Or we will send a sample packet of six forms, with our compliments. Address below . . .

PITNEY-BOWES POSTAGE METER CO.
1482 Pacific Street, Stamford, Conn.

Originators of Metered Mail, world's largest Manufacturers of Postage Meters, which print postage for business mail . . . now devoted to war production.

THE POWERFUL "SAP" OF THE WHIFFLETREE

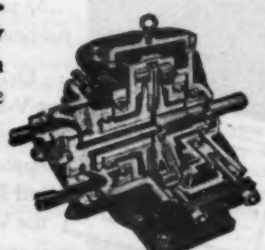


An arresting aircraft application of
HELE-SHAW FLUID POWER

AIRPLANE WINGS have to be load-tested. For years this has been done by "shot-bag" loading. But shot-bag loading is slow, laborious and costly, and does not duplicate flying conditions.

Mindful of these shortcomings, Fleetwings devised a hydraulic testing method. Hele-Shaw Fluid Power (oil under pressure from a Hele-Shaw Pump) is supplied to hydraulic jacks which branch the powerful pressure through descending-sized "whiffletrees" to rib sections. Maximum load pressure can be applied within 15 seconds, and held for three seconds, closely simulating actual flight conditions.

Hele-Shaw hydraulic engineers are helping to unravel many knotty problems in machine design and operation concerning such mechanical movements as pulling, pushing, stretching, squeezing, lifting, tilting . . . many others. Possibly they can help you. Active investigation of Hele-Shaw Fluid Power now might hasten your take-off in the competitive race after the war.



THE **Hele-Shaw** *Fluid Power Pump*

AE CO

OTHER A-E-CO PRODUCTS: TAYLOR STOKERS, MARINE DECK AUXILIARIES, LO-HED HOISTS

AMERICAN ENGINEERING COMPANY

2521 ARAMINGO AVENUE • PHILADELPHIA 25, PA.

owned by the same interest in a given market and added others which gave them greater geographical coverage.

• **In the Shuffle**—They retained KRNT, the 5,000-watt Des Moines station, and WNAX, the 5,000-watt Yankton (S. D.) station. KSO, a Des Moines 5,000-watter, was sold for $275,000; profitable WMT, Cedar Rapids 5,000-watter, was swapped for WOL, Mutual's 1,000-watt outlet in Washington, D. C.

The brothers strengthened their eastern position by paying $350,000 for WHOM, Jersey City 1,000-watter, and $225,000 for WCOP, 500-watter in Boston. While WHOM is geographically on the wrong side of the Hudson, practically it is a New York metropolitan station.

• **More Power and FM**—If the FCC approves—as seems likely in view of the brothers' connections—they intend to step up the power of their three eastern stations and to include frequency modulation (FM) in all their radio operations. They are planning a new radio station in Minneapolis.

John and Mike expect high-definition color television to become a major advertising medium within ten years; that's implicit in their hiring Craven.

• **Pictorial Digest?**—Their magazine experimental staffs are busy on hush-hush plans for a new periodical. Best guess is that they will put out an illustrated publication otherwise resembling the Readers' Digest.

Pictures, especially photographs, rank high in Cowles publishing. In 1937, they started from scratch their pictorial periodical Look. Early sensationalism that built its circulation has been toned

T. A. M. Craven adds to the Cowles brothers' radio network both technical and legal know-how—backed by nine years of experience on the Federal Communications Commission.

down. Paper restrictions clipped Look's circulation to 2,000,000, its annual advertising revenue to $5,250,000. Mike Cowles forecasts a postwar circulation of 3,000,000, and advertising volume of $12,000,000.

Editors of Look have produced three pictorial books (Woodrow Wilson, Air Power, How to Be Attractive) in which text parallels illustration, and six movie shorts, not unlike the March of Time, dramatizing subjects from Look. Plans are in progress to produce more visual books and movie shorts.

• **Like Father**—John and Mike Cowles doubtless acquired from their father, Gardner Cowles, Sr., now 83, an ambidexterity which enables them to juggle successfully a variety of enterprises. The father was simultaneously a partner in a weekly paper at Algona, Iowa, a country banker, a star-route mail contractor, and a member of the state legislature.

Cowles, Sr., bought the Des Moines Register & Leader 41 years ago for $80,000. Only after he took it over did he learn the sickening statistics. The paper's debts exceeded $50,000, and its circulation was only 15,000. On his experience with mail routes he built a fast statewide delivery system, and signed subscribers in all of Iowa's 99 counties, thereby created the family's persisting fetish of circulation.

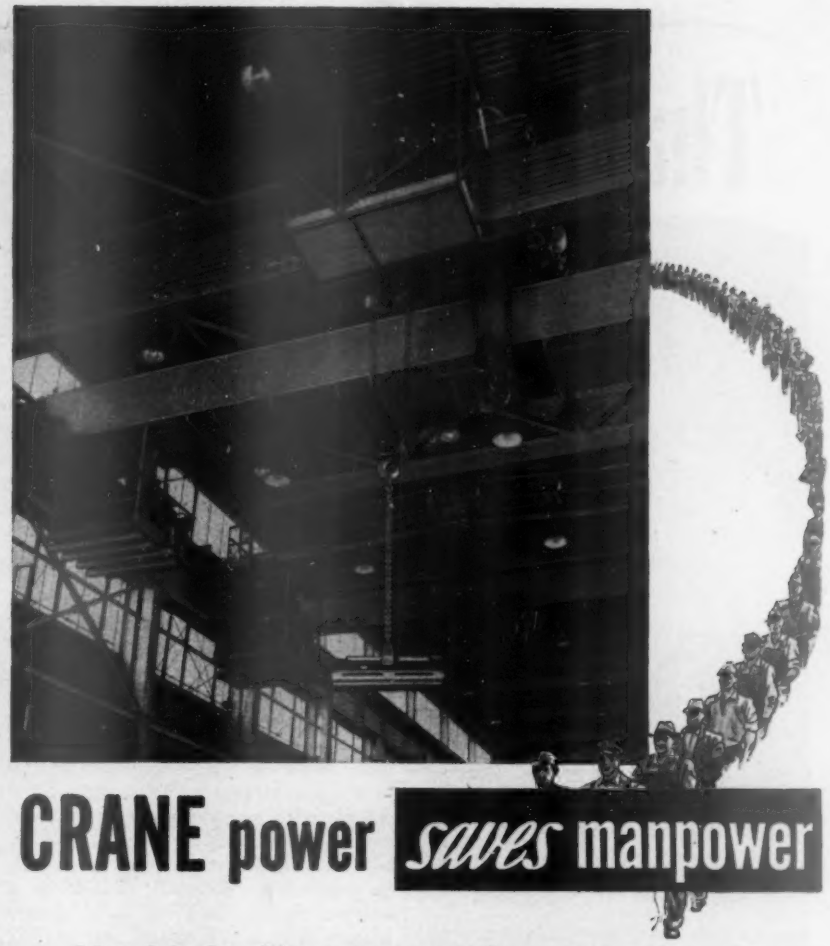
• **Promotion Successful**—The Cowles papers' highly successful circulation permeation of the state—and their promotion as advertising media adequate to cover all Iowa—have left them less than completely popular among their fellow publishers.

Eight months after he took over the Register & Leader, Cowles had it out of the red; it has paid dividends regularly since. He bought the evening Tribune in 1908, the Scripps-Howard News in 1924, and achieved newspaper monopoly in Des Moines by purchasing the Capital in 1927.

• **Graduate Work**—Mike and John had their book schooling at Harvard. But their real training was acquired on the morning and Sunday Register and the evening Tribune.

The brothers picked Minneapolis for their out-of-state newspaper expansion because Minnesota habits, tastes, and background resemble Iowa's. In 1935, they paid $1,000,000 for the Minneapolis Evening Star. Two years of absentee ownership proved unprofitable. So John moved to Minneapolis and the Star began to brag itself up as a locally owned newspaper.

It took six years and floods of Cowles money to get the first dividend from the Minneapolis operation. The brothers bought the Journal and merged it with the Star in 1939. Two years later they gained control of their remaining



CRANE power *saves* manpower

Materials-handling crews are often cut two-thirds or more by the installation of a Whiting Crane.

The manpower thus saved is made available to step up production . . . while the Crane does the work faster, at lower cost.

Whiting Cranes are specially designed for each job by crane engineers . . . experienced in every type of materials-handling operation. They will be glad to survey your operations to determine the equipment best suited to your particular needs. Write today. Whiting Corporation, 15661 Lathrop Ave., Harvey, Illinois.

BUILDERS OF QUALITY CRANES FOR OVER 60 YEARS

Dependable · · Quiet-Running · · Durable

WHITING

Overhead Traveling CRANES

competition, the morning and Sunday Tribune, and the afternoon Times. They maintain the Times to give the Star-Journal the stimulus of competition. The Tribune has the Sunday and morning fields to itself.

• **A Serious Job**—The Cowles brothers are earnest to the point of solemnity. They hold that their newspaper monopolies constitute a public trust, and they stress three rules to their staffs: (1) Present all news impartially (Mike's divorce from his first wife was front-paged in their Des Moines papers); (2) present the papers' own views forcefully, but keep these in the editorial not the news columns; (3) present the opinions of dissenting writers and columnists to give readers a rounded diet.

Mike contends that running a good newspaper today requires so much capital that a city under half a million population can be served best by a single ownership of its newspapers. His pet argument is that his company spends more money on the editorial content of its Minneapolis papers than did all the previous publishers combined.

• **Liberal Republicans**—The Cowles newspapers generally have supported the liberal side of the Republican party. They favor most Roosevelt Administration international policies, but differ sharply with many of its domestic policies. They are backing Dewey.

The brothers were among the leaders in promoting Wendell Willkie as a national figure. In 1940, John accompanied Willkie to England, and in 1942 Mike girdled the world with him on the trip which produced Willkie's best-seller book, "One World." Willkie was a frequent vistor to John's 1,000-acre farm near Battle Lake, Minn.

Each brother has spent about a year in wartime jobs. When Edward J. Stettinius, Jr., was lend-lease administrator, John was his assistant. Mike was director of the domestic branch of the Office of War Information.

• **Stickler for Detail**—Forty-five-year-old John has followed his father's lead. Dark, chunky, a stickler for detail, from behind thick-lensed glasses he peers owlishly into the business and circulation departments. Politics to him is a serious, engrossing business that calls for constant sampling of public opinion.

Sandy, slender, 41-year-old Mike is more imaginative, more active physically, and friendlier as he speaks in his slow monotone. He took the family into radio. He is credited among publishers with changing most rotogravure sections from the original assortment of unrelated photographs to "picture story" sequences.

• **Aviation Fan**—Mike is an air enthusiast, and a director of United Air Lines. The Des Moines papers bought their first airplane in 1928, and before the war their planes were familiar sights at the major airports of the Middle West.

John supervises the Minneapolis papers, which have the greater gross business. Mike looks after the Des Moines papers and the radio enterprises. Both share in running Look.

• **Gallup's Patrons**—The Cowles brothers don't edit their papers by hunch; they take frequent polls of reader interest to guide their decisions. They are widely credited with giving a start to Dr. George Gallup, a former teacher of journalism in Iowa colleges, by hiring him for work on reader studies for the Register.

Mike Cowles and his bespectacled brother, John, are building a radio-television empire on the solid foundation of their midwest publishing enterprises.

Thanks!

"When the packers warned me that feed shortages would mean unfinished beef this fall, I was plenty worried about what my customers would say. But thanks to Better Homes & Gardens, they were prepared for less tender meat before it hit the market . . . and primed with ideas for serving it in dozens of tasty dishes.

"You timed the solution to this problem right on the nose. I don't know any other magazine that's called the turn on wartime food problems as often as Better Homes & Gardens . . . or whose ideas on food are followed by so many families."

Better Homes & Gardens
America's Family-Service Home Magazine

MEREDITH PUBLISHING COMPANY, DES MOINES 3, IOWA

When it becomes a souvenir...

What then? Stay home...do nothing? You *know* you won't! Like our fighting men, you've earned the right to choose work you enjoy. And the time to prepare is... now!

A surprising number of war workers are going to learn to type... a skill easy for them to acquire.

For women who want careers, typing is the opening wedge to the world's most fascinating professions. For women who plan marriage, typing brings contacts with the world outside ...keeps distant friends in touch, leads to club, business, and social activities that less accomplished women miss.

So do think about learning to type. Even today, some Smith-Corona typewriters, under certain conditions, are available for civilian use—or you can "beg, borrow, or rent" for practise purposes. It's a wise move for post-war planners. L C Smith & Corona Typewriters Inc Syracuse 1 New York

SMITH-CORONA

Typewriters

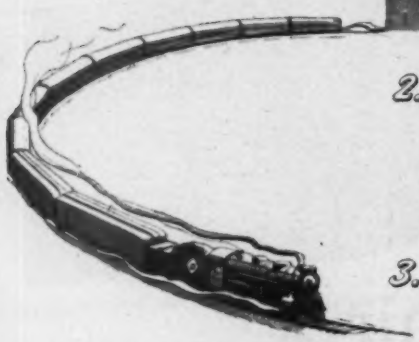
Groton Plant

MORE L C SMITHS FOR CIVILIANS!

Note to Industry: W.P.B. has increased our fourth quarter allotment of new typewriters to be made for *necessary* civilian use. If you can qualify under "W.P.B.—1319," we may be able to supply you; in any event, talk with our local branch office or L C Smith dealer.

How a Heart-Beat in a Small Town Saves a Life 8000 Miles Away!

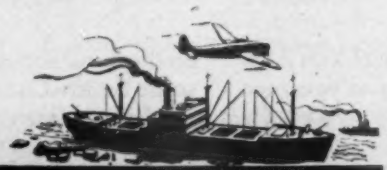
1. American Red Cross mobile units visit small towns periodically—set up blood donor centers in village schools, churches or community houses. Here patriotic Americans voluntarily give their blood to save the lives of our fighting men.



2. Blood is sped to central laboratories, located within 50-100 miles of the service centers—processed into the form pictured here. One pint of blood makes one unit of plasma. The seriously wounded sometimes require as many as *12* units to speed them on the road to recovery.

3. Packed in padded wooden containers and waterproof bags, plasma units are rushed by your railroads to points of embarkation . . .

4. . . loaded on ocean-going vessels or cargo planes—taken into the front lines, where they perform their life-saving miracles.



THE Erie and other American Railroads have carried more than 10 million pounds of blood plasma—nearly 2 million units. This is typical of the many unusual wartime requirements never before handled by your railroads in such tremendous quantities.

With the continued help of the public, shippers, and government agencies, the Erie and other American Railroads will keep vital supplies of every kind rolling to our fighting fronts.

Photo by U. S. Signal Corps

Your Help is Needed

Casualties are increasing! Bigger battles lie ahead. 45 minutes of your time can save the life of an American boy. In large communities go to your local Blood Donor Center. In smaller towns watch for the arrival of a mobile unit.

Erie Railroad

ONE OF AMERICA'S RAILROADS—ALL UNITED FOR VICTORY

ERIE

Television Dream

Use of ordinary telephone wire is demonstrated by the head of Packard Mfg. Co., but industry has its fingers crossed.

Out of Indianapolis last week came big news for television—transmission on ordinary telephone wire—but the industry simply couldn't believe it, for such a development runs counter to all the concepts on which television engineers have operated for two decades.

• **Basic Limitation**—Ordinary communication circuits have always been considered incapable of handling television images which require more than 4,500,000 picture impulses per second, for the regular telephone wire will carry only about 30,000 at the top.

This is the basic limitation on network television. Only two ways of circumventing it have been devised: (1) using a special coaxial cable which costs about $10,000 a mile, or (2) building an almost equally expensive system of relay stations at intervals of 30 mi., which is the effective limit of the primary coverage area of all television stations, whose high-fidelity signals travel in almost straight lines to the visible horizon.

• **Would Extend Coverage**—If television could be sent on ordinary telephone wires, it could also presumably use the low frequencies of the present radio band, thus extending the coverage area of each station.

Promoter of the Indianapolis development is Homer E. Capehart, head of the Packard Mfg. Co. Capehart this week was too busy campaigning for the Senate to talk about television, and associates at the Packard Mfg. Co. were reluctant to discuss the idea because his vacuum tube circuit with its special coupling device to use ordinary telephone wires hasn't been patented. The invention itself is the brainchild of 38-year-old Raymond Binney, formerly of Video-Graph Corp. of Detroit.

Binney does not claim to be the only one to use telephone wire for television. RCA has a 2-mi. pickup for New York programs outside studios, but it is equipped with special amplifiers, balanced lines, and several boosters.

• **Sent 50 Miles**—In the Indianapolis demonstration, the signal is reported to have done a 12-mi. loop from the laboratory to a downtown Indianapolis radio station. But Packard claims that images already have been sent over 50 mi. of wire strung back and forth along the laboratory ceiling, using a two-volt signal.

There was no distortion of the image

Thinking Americans Today . . .

ARE NOT TOO FREE WITH FREE SPEECH

Since our republic was founded, no privilege has been guarded more jealously than the right to talk things over—a right for which men had fought in vain for centuries. The more viewpoints discussed, the clearer our national vision and the stronger our national unity.

Today, public opinion in America asks us all to protect our privilege. It warns us against spreading rumors thoughtlessly or circulating information helpful to the enemy. It urges us to challenge the person with "inside information on the war" by asking him, "Where did you get your facts?" It reminds us that the enemy lays important plans by piecing together little scraps of offhand information. *There is no such thing as unimportant gossip.*

* * *

When a product maintains the character that people respect, they are quick to demand it. Generations ago, the makers of Budweiser set a standard—distinctive in taste, pure, good and distinguished for its uniform quality. That's why people everywhere have agreed that Budweiser is "something more than beer". No wonder it is the most popular beer in history.

Anheuser-Busch produces materials which go into the manufacture of: Rubber • Aluminum • Medicines • B Complex Vitamins • Hospital Diets Baby Foods • Bread and other Bakery products • Vitamin-fortified cattle feeds • Batteries • Paper • Soap and Textiles—to name a few.

Budweiser

TRADE MARK REG. U.S. PAT. OFF.

© 1944

ANHEUSER-BUSCH • • • SAINT LOUIS

on the screen, according to Binney, when the transmission line was wrapped around electric motors in operation or placed near a telephone being dialed, which usually prove to be sources of interference.

• **May Be Recorded**—The possibility of recording television shows for later broadcast was revealed also. Capehart's engineers, working on a method for recording television programs on wax disks like phonograph records, have already recorded programs having simple black-and-white detail, and are confident of increasing the sensitivity of recording sufficiently to handle fine details in shades of gray as in movies.

This means that advertising sponsors could stage elaborate programs with professional talent, record them, and rebroadcast them anywhere at the most favorable times.

Meanwhile, radio and network engineers had a "we're from Missouri" attitude. And they were sitting high on the west bank waiting to see what happened.

Backing for CBS

FCC testimony by Norton supports ultrahigh-frequency television. Compromise plan is suggested by Cowles official.

Considered a damaging blow to television in the present radio spectrum (50-294 megacycles), in the opinion of many engineers, is the data on propagation (manner in which radio waves travel from transmitter to receiver) presented last week before the Federal Communications Commission by Dr. Kenneth A. Norton, propagation expert and scientist. Norton's data supports the contention of the Columbia Broadcasting System that television should be moved to the ultrahigh frequencies (above 400 megacycles).

• **Released by Military**—Norton's data were classified by the military as "restricted" until Oct. 18, when the Joint Chiefs of Staff released it for the FCC allocation hearings, which opened Sept. 28.

Of frequency modulation (now in the 41-50 mc. band), which promises to broaden radio broadcasting service by several hundred stations, Norton said that "these data clearly indicate that [station] interference would be expected for a negligible percentage of the time on frequencies above 120 megacycles." He would expect "slightly larger FM service areas on frequencies between 130 mc. and 200 mc. than on 45 mc."

• **Stands on Prediction**—Regarding television, Norton said: "The expected range for a transmitting antenna at 1,000 ft. would be a maximum in the band between 500 mc. and 1,500 mc. No experience which I have had within the past few years would lead me to change that prediction."

Earlier in the week the commission had heard eight witnesses headed by Niles Trammell, National Broadcasting Co. president, and Thomas F. Joyce, manager of the radio, television, and phonograph division, Radio Corp. of America, pour thousands of words into the record, backed up with reams of exhibits, extolling the qualities of television in its present location. (RCA reputedly has spent $15,000,000 developing transmitters and receivers for lower frequency use and is ready, said Trammell and Joyce, to spend another $10,000,000 promoting the art if the commission will reaffirm its present standards.)

• **CBS Gets Ready**—T. A. M. Craven, vice-president of Cowles Broadcasting Co. (page 81) and, until last July 1, a member of FCC, joined Paul W. Kesten, executive vice-president of CBS, and other Columbia network witnesses in advocating the removal of television to above 400 mc.

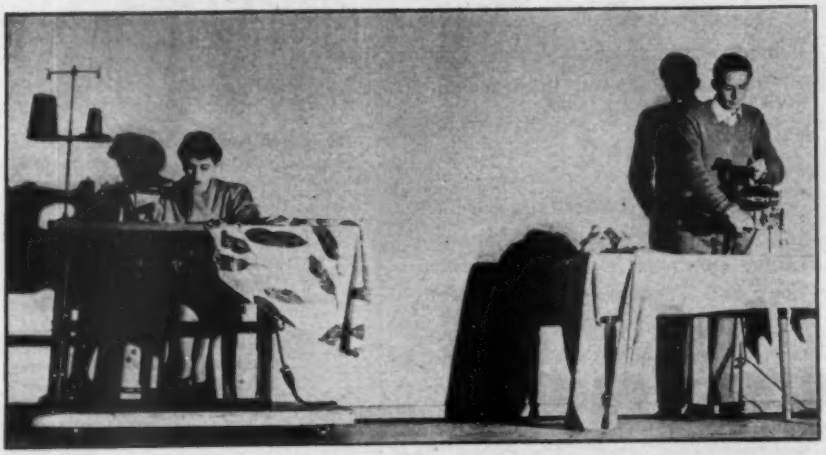
Both Columbia and Cowles are readying transmitters in the ultrahigh frequencies (above 400 mc.) and Zenith Radio Corp. has agreed to build the receiving sets in addition to an ultrahigh-frequency transmitter which CBS has ordered from Federal Telephone & Radio Corp. (BW—Oct.21'44,p96). The broadcasting company also hopes to obtain early delivery on two other transmitters to be built by General Electric and Western Electric.

• **Other Plans**—As a compromise in the television dispute, Craven suggested a five-year allocation of television in the 60-108 mc. band, that space ultimately to be reserved for FM and facsimile (still picture transmission by FM radio), with the remainder for television above 400 mc.

Another solution to the commission's

LADY IN THE DARK

At the New York Times fashion show last week, eyes focused on models in garments made phosphorescent under "black light"; attention centered on the script emphasizing the importance of Manhattan as a style center. Budget shop offerings rubbed elbows with exclusive designs, the common denominator being "Made in New York"—a pardonable bit of chauvinism in keeping with postwar plans of the city and garment industry (BW—Sep.30'44, p32). New note was the prologue, which paid tribute to workers (below) in the garment trades where large-scale production has made smart clothes available to all income groups.



Moving Mountains . . . to make a Dream Come True

Will America be prepared to keep her promise of "jobs for all" when our fighting men come marching home? We think America will—because we know the job this country's industry has done to win the war, and what it is capable of doing to win the *peace.* When you think about post-war opportunity, consider the record of our mining industry—of the men who produce the metals and minerals that make the sinews of our wartime might:

To build 10,000 Flying Fortresses alone they have had to produce 1,000,000 lbs. of copper—to say nothing of the iron, lead, zinc, other metals and coal it took to launch this giant flock of bombers.

Since Pearl Harbor, they have lifted coal and metal production to a billion tons a year. In some cases, prewar output has been tripled.

With patched up machinery, they have squeezed the last ounce of metal from low grade ores, pushed old mine shafts a mile and a quarter beneath the earth's surface—deeper than ever.

4. They have developed revolutionary new methods in mining and smelting to give our weapons the world's biggest muscles . . . and to keep our civilian economy strong.

The mining industry's typically American record in war is a promise that it will do its share in providing jobs for G.I. Joe when peace returns. These facts and figures indicate there will be real post-war opportunities in mining for men and equipment. And there will be jobs, too, for Jenkins Valves in this and our other great industries. For the way these valves have "taken it" under the toughest wartime pressure has proved that *"It pays to standardize on Jenkins"* is a promise that will be well kept!

Jenkins Bros., 80 White St., New York 13; Bridgeport; Atlanta; Boston; Philadelphia; Chicago. Jenkins Bros., Ltd., Montreal; London, England.

JENKINS VALVES

SINCE 1864

For every industrial, engineering, marine and plumbing-heating service . . . in Bronze, Iron, Cast Steel and Corrosion-Resisting Alloys . . . 125 to 600 lbs. pressure.

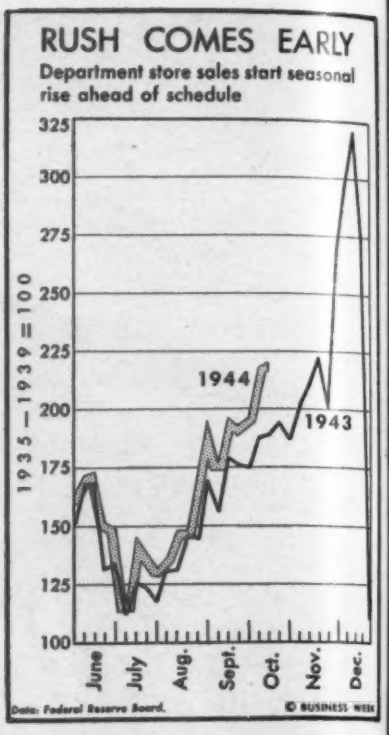
Sold Through Reliable Industrial Distributors Everywhere

The Flavor of Home

If you were to fashion a pipe for yourself, in your own home, you would want it just like this. It is what the finest pipe should be, in every particular. Of course, we have a 93-year start on you, in making pipes (at it since 1851). We've studied the behavior of pipes, and what happens to the smoke on special machines designed for the purpose. We've tried many hundreds of different ways of smoking tobacco in all kinds of substances. The result is: Kaywoodie Pipes are designed and prepared in every phase in the *right* manner, so that they yield the greatest pleasure in smoking. They're famous 'round the world.—If you've been unable to find Kaywoodies lately, it's because of great demand by the Armed Forces. We're sure you'll agree that we must serve our fighters, first! Kaywoodie Company, New York and London. *630 Fifth Avenue, New York 20, N. Y.*

War Bonds come first

The Christmas buying rush has started unusually early this year because of the tremendous increase in the size of our armed forces outside the country, and the Oct. 16 deadline on overseas mailings. (Between Sept. 15 and Oct. 22 nearly 23,000,000 overseas packages passed through the New York postoffice, compared with less than 7,000,000 in the same period last year.) Both the warning of the Office of Defense Transportation that parcels must be mailed by Dec. 1 to assure delivery in this country before Dec. 25 (BW—Oct.21'44,p82) and the fact that Thanksgiving will be celebrated earlier than usual in 40 of the 48 states will operate to keep this year's sales running ahead of 1943—at least until the weeks just before Christmas, when a lower buying peak than last year would be a logical expectation in view of the early buying.



problem of where to put television was offered in the form of a government-controlled monopoly, with set owners paying a monthly bounty of $2 and advertisers placed in the "also ran" category. Ulysses A. Sanabria, whose mechanical television was demonstrated (at 25¢ a head) at circuses and outdoor fairs in the late twenties and early thirties, was the proponent of what he called "an American plan."

• **No Live Talent**—His proposal: The U. S. would be divided into television areas, each to have a federally supervised utility of five or less telecasting companies, the five best channels to be "franchise channels." There'd be no live talent under Sanabria's plan—only motion pictures. Receivers would be "registered" at $2 a month, or thereabouts, with the local utility, 10% going to the government and the remainder being divided equally among stations.

His plan would be "an improvement over the British system," Sanabria argued, because his permits a few minutes of advertising to be sold "out of each film hour."

• **May Get Decision Soon**—By mid-November manufacturers should know how to gear their postwar television equipment. James Lawrence Fly, FCC chairman, has announced that the commission would begin deliberations "at the conclusion of the current hearings."

Fly definitely is leaving the commission about Nov. 15. He has retained offices in the RCA building, New York. For weeks silent as to when he would leave, Fly admitted last week he will "practice law."

MACY TRAINING SHARED

For a rate equivalent to approximately 1¢ per employee per day, department store executives can profit by R. H. Macy & Co.'s experience in personnel management and training, through a new "Management Operations Personnel Service" to be distributed through General Service Publishing Co. of New York, long known for personnel training service in the hotel and restaurant field.

Subscribers will receive by mail a month-by-month detailed explanation of Macy's techniques in attracting new employees, holding its 12,000 new and old ones, training both selling and non-selling personnel, and similar timely problems.

Any store anywhere except within 50 mi. of New York may subscribe, but medium-sized stores with about 800 employees are considered the most likely prospects for the service.

PROMOTING GRAPEFRUIT

Grapefruit growers in Arizona and California have voted to assess themselves up to 4¢ a box to advertise their desert grapefruit.

The California-Arizona crop now is around 5,200,000 boxes annually, up from 3,000,000 in 1940. About 3,000,-

00 boxes can be sold fresh, the remainer being canned. The western growrs are worried about competition from lorida and Texas, where citrus groves e being enlarged to seek a larger porion of the eastern market. Florida lost estimated 18,000 cars of grapefruit the recent hurricane.

In 1940, growers of California and rizona had overproduction and were the red. They rallied to sign agreeents to improve their grading, won ack their market, and then were ready team up on an advertising program. his year it became a reality.

The $200,000 assessment for adversing, publicity, dealer service, and reearch will be administered by the Dert Grapefruit Industry Committee, ith headquarters at Phoenix, Ariz.

STING THE AGENTS

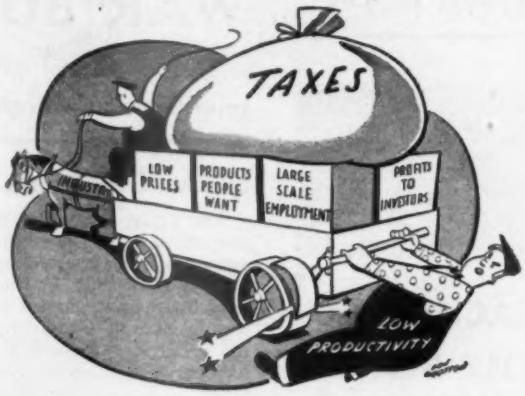
How many manufacturers' agents are ere in the United States? Lacking a ational directory, the Los Angeles hamber of Commerce has decided to d its own answer to this question.

When a manufacturer wants a sales ent, he usually is interested in a ecific area or city. That city's telehone book classified section will give m a list of agents, but not classified the lines they handle. His best source information is often the chamber commerce.

To save manufacturers' time in buildg up sales representation in new terory after the war, the Los Angeles hamber of Commerce has started comling the next thing to a national direcry of agents. From about 150 key ties, lists are being received and filed. he Los Angeles manufacturer who ants representation is given a list of ents with a general description of lines ndled.

S.

Pageant is the newest pocket-size agazine to seek its share of the 25¢eces which Reader's Digest got the ublic into the habit of spending for psule articles. Pageant, offered by Hillan Periodicals, Inc., will include origil material, not reprints, and will not rry advertising. . . . As if to confound itics who accuse co-ops of not bearing eir full tax burden, the National Farm lachinery Cooperative of Shelbyville, d., has returned a $45,000 patronage vidend to the U. S. Treasury, on its rrent purchases of tank parts and her war materiel. . . . As predicted W–Oct.7'44,p89), Marshall Field s acquired control of Simon & Schusr, Inc., and Pocket Books, Inc. The ok publishers will retain their present anagement and editorial direction.



GIVE THE HORSE A CHANCE

Industry's problem and labor's problem are identical. Industry must have a product that is wanted by the people at prices they are willing to pay. Labor must have jobs at wages which will enable them to purchase the goods of industry. This automatically assures a high standard of living and purchasing power.

Industry is a good truck horse, but if you overload the wagon with high taxes and put on the brakes with low productivity, the horse can't pull the load.

The normal load industry must carry is heavy enough. It must make products the people want, sell them at a price they can afford to pay, give large-scale, steady employment, and yield profits to investors.

To assure a market that will support large-scale, steady employment, prices must be kept down; to keep prices down, taxes must be reasonable and productivity per man must be high.

Profits are necessary to industry for the purpose of:

(a)—research and invention

(b)—to assure bankers that loans made with your savings and my savings can be paid back,

(c)—to assure those people, who have money to invest in industry for new machines and plants, that they will not only get dividends on their investments, but will be reasonably sure that the principal will not be lost.

All of this takes good management and good labor relations. If the old horse is going to pull the load you want it to, then give the horse a chance.

Geo. D. Trundle Jr.
President

1919-1944

THE TRUNDLE ENGINEERING COMPANY

Brings to Industry and Business

25 Years **OF MANAGEMENT ENGINEERING EXPERIENCE**

GENERAL OFFICES • CLEVELAND • BULKLEY BUILDING

CHICAGO
City National Bank Bldg., 208 S. La Salle St.

NEW YORK
Graybar Bldg., 420 Lexington Ave.

PRECISION PARTS

ACE MACHINING ON THE BEAM

This is a vital part of an air-borne instrument. Its beam picks out a bomber's target below the clouds. It helps bring the crew home safely after the mission. It helps avoid mid-air collisions.

Ace manufactures these parts complete from stainless-steel bar-stock. Each piece is roughed out on a screw-machine and then the square milled on the end. It is then cylindrically ground and the flats are surface-ground. After completing these operations, the threads are ground from the solid blank.

Working with close tolerances on a mass-production basis is an Ace accomplishment that offers many worthwhile advantages. If you are thinking in terms of small parts or assemblies, it will pay you to consult with Ace. Send sample blueprint or sketch for quotation.

ACE
TRADE MARK

ACE MANUFACTURING CORPORATION
for Precision Parts

1211 E. ERIE AVENUE,
PHILADELPHIA 24, PA.

A Complete Service Under One Roof

Whether your job requires machining, grinding, or stamping . . . and whether it involves drilling, threading, or hardening . . . Ace is set-up to handle each operation. Responsibility at Ace is not divided. Time at Ace is not wasted.

WAR BUSINESS CHECKLIST

A digest of new federal rules and regulations affecting priorities and allocations, price control, and transportation.

Surplus Goods for Sale

The Treasury Dept.'s Office of Surplus Property is revising its method of informing prospective purchasers concerning the surplus goods available. A "Surplus Reporter" is to be issued from each regional office at regular intervals listing what the Treasury has to sell, the area in which the goods are located, and the general method of sale. Upon receipt of the "Surplus Reporter," prospective buyers will contact the nearest regional office, indicating the goods in which they are interested. As present mailing lists are being revised, persons wishing the bulletin should apply to the nearest of the regional offices, which are located at Boston, New York, Washington, Cincinnati, Chicago, Atlanta, Fort Worth, Kansas City, Mo., Denver, San Francisco, and Seattle.

The Office of Surplus Property has announced for sale 2,000 used armored steel trucks, by negotiated sale or informal bid as is. Contact any regional office regarding location of equipment.

Increased Civilian Supply

By amending Order L-23-c, WPB has permitted production of oven thermostats and burner valves, for which copper and copper-base alloy were recently allocated. Application to manufacture these items must be made to WPB's Plumbing & Heating Division.

● **Infants' and Children's Apparel**—Producers will receive priority assistance to obtain cotton and flannelette fabrics for a program aimed at making and distributing 30,000,000 units of infants' and children's wear during the period from Dec. 1, 1944 through Feb. 28, 1945. Application for assistance must be filed with WPB's Clothing Branch in Washington not later than

Aerial Cutlery Mfg. Co.
Marinette, Wis.

American Sanitary Mfg. Co.
Abingdon, Ill.

American Type Founders, Inc.
Elizabeth, N. J.

Atlas Powder Co.
North Chicago, Ill.

Chicago Electric Mfg. Co.
Chicago, Ill.

Crystal Research Laboratories, Inc.
Hartford, Conn.

Dean Milk Co.
Pecatonica, Ill.

Dover Stamping & Mfg. Co.
Cambridge, Mass.

Fonda Gage Co.
Stamford, Conn.

General Aniline & Film Corp.
Rensselaer, N. Y.

Goodyear Tire & Rubber Co. of Alabama
Gadsden, Ala.

Jones & Laughlin Steel Corp.
McKeesport, Pa.

Kittinger Co., Inc.
Buffalo, N. Y.

Maytag Co.
Newton, Iowa

Northwest Airlines, Inc.
St. Paul, Minn.

Pfister & Vogel Tanning Co.
Milwaukee, Wis.

Premium Cap Co.
St. Louis, Mo.

W. M. Ritter Lumber Co.
McClure, Va.

Sharon Steel Corp.
(Two plants)

Simplex Paper Co.
Adrian, Mich.

The Sun Rubber Co.
Barberton, Ohio

Union Electric Steel Corp.
Carnegie, Pa.

The Upjohn Co.
Kalamazoo, Mich.

A. Wimpfheimer & Bros. Inc., The American Velvet Co., Inc.
Stonington, Conn.

Maritime Commission M Awards

A.B.C. Steel Equipment Co., Inc.
New York, N. Y.

American Engineering Co.
(Two plants)

Buckler Co.
Portland, Ore.

Columbia Steel Co.
Torrance, Calif.

Electric Machinery Mfg. Co.
Minneapolis, Minn.

Erie Meter Systems, Inc.
Erie, Pa.

Farris Engineering Co.
Palisades Park, N. J.

Submarine Signal Co.
Boston, Mass.

Worthing Pump & Machinery Corp.
Wellsville, N. Y.

(Names of winners of the Army-Navy and Maritime Commission awards for excellence in production announced prior to this new list will be found in previous issues of Business Week.)

r. 8. Amount and type of materials and manship are controlled by WPB.

Fishing Rods and Tackle—WPB has horized limited production of fishing s, reels, and other types of noncom- rcial fishing tackle and has increased the put of fishhooks by revoking Order L-92. terials needed will continue to be re- ted by Controlled Materials Plan and applicable conservation orders. Copper brass may be obtained under Priorities ulation 25 (spot authorization); iron and l, by filing CMP 4-b-form with WPB's sumers' Durable Goods Division; alu- num, under PR 13 or PR 25.

Refrigerated Display Cases—By applying WPB's field offices, manufacturers may ain permission to share in the production 8,000 cases authorized for replacement poses under Direction III, Order L-38.

Nonfat Dry Milk Solids—Government set- e requirements on spray dried skim milk reduced from 50% of October output to % of November output by Amendment 5, r Food Order 54.4.

Cheddar Cheese—Manufacturers need re- e only 25% of production in November December as compared with the 40% re required in October.

creased Civilian Supply

To make more tinned meat available to men in the services, WPB and War d Administration have announced that November and December, when from % to 30% of the tinned meat supply is ked, packers will be limited to 15% of r annual tinplate quotas for civilian ribution. (Direction 5, Order M-81.)

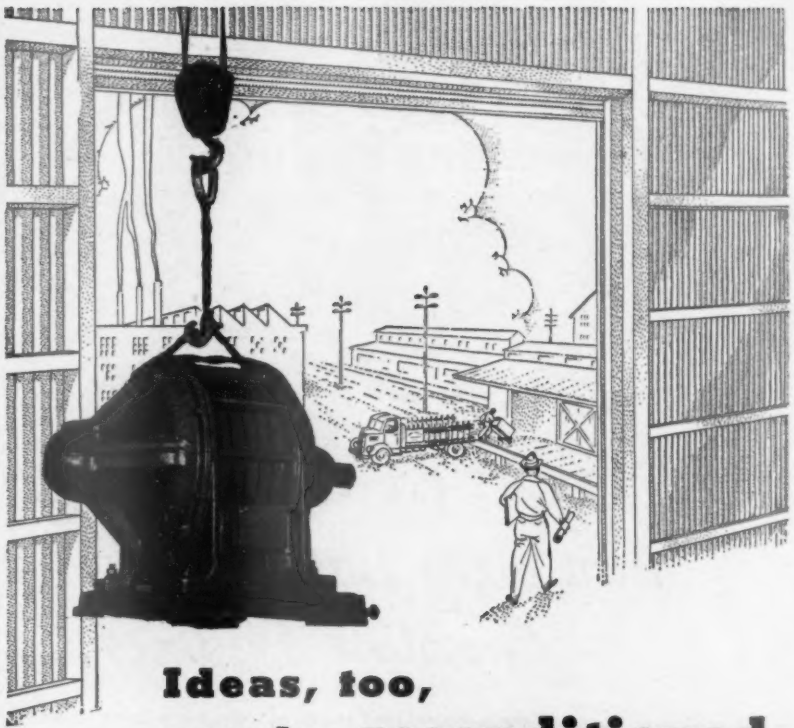
laxed Restrictions

WPB has revoked Direction 4, Order 21-a, which required that specified per- tages of alloy steel scrap be consumed the manufacture of certain grades of r steel; it has also revoked Order M-24-c iring segregation of alloy steel scrap n carbon steel. Controls over grades and tive quantities of alloy steels that are mitted remain. Voluntary segregation of r steel scrap is urged on producers and ers.

Plumbing Fixtures—Restrictions on use metal in shower stalls and receptors are oved by an amendment to Schedule of order L-42. Production of certain -iron plumbing items is authorized, while er amounts of copper or copper-base r are now allowed in nonmetallic wash ntains.

Track-Laying Tractors—The 65% reserve all repair parts for military use is no ger required under WPB Order L-53-b, amended, though manufacturers must ship up to 65% of output of critical s to the armed forces if necessary to fill rs. Producers' sales to export dealers to dealers and distributors in the U. S. Canada are freed from quota restric- s.

Flue-Cured Tobacco—Manufacturers may chase from the current crop 666,000,000 of flue-cured tobacco or 102.5% of the ntity they used in the year ended June 1944—more than they have ever pur- ed from a single flue-cured crop. Deal-



Ideas, too, can be reconditioned

What's the tie-up? This motor, reconditioned and restored to its full work capacity, could fairly be rated *better* than new.

Why "better"? Because expert overhauling also *saved* a large part of the scarce labor, materials and time that would have been required for new production.

It will be to industry's credit if basic conservation *ideas*, revived through necessity, are continued by choice. Users of Yellow Strand *Preformed* Wire Rope, for example, can profitably take the same minute care of their ropes *after* supplies become freely available again. We feel confident they will stick to the *preformed* rope that has delivered so much extra service on vital war jobs.

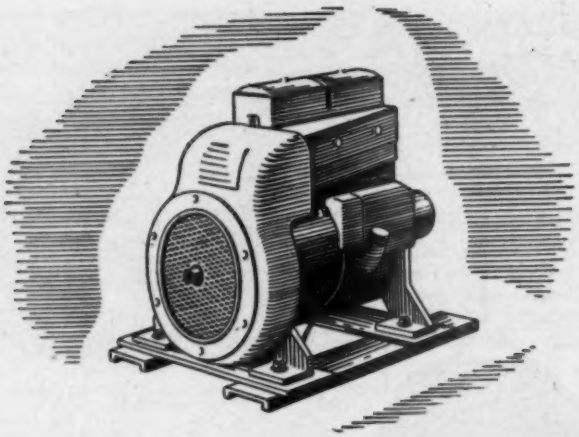
In employing *Preformed* Yellow Strand and Yellow Strand Braided Safety Slings for the first time, an engineer or contractor generally reconditions a number of opinions. It's discovered, for example, that a rope need not be untractable. For *preforming* and *patented braiding* add *flexibility* to traditional Yellow Strand stamina. Both operations promote ease of handling . . . increase kink-resistance . . . extend rope life. Why not review your rope and sling applications with us?

Broderick & Bascom Rope Co., St. Louis

Branches: New York, Chicago, Houston, Portland, Seattle. *Factories:* St. Louis, Seattle, Peoria

YELLOW STRAND

***PREFORMED* WIRE ROPE • *BRAIDED* SAFETY SLINGS**



NEEDLE BEARINGS

also Help Improve Gasoline Engines . . .

Take a second look at one of *today's* gasoline engines—and notice how compact, how light in weight this portable power plant has been made. Listen to its steady purr as it drives a water pump . . . an electric generator. Then throttle it up and down to get the *feel* of its anti-friction operation.

And if you look *inside* of one of these new day power plants, you'll see *one* reason for its greater efficiency is the use of Torrington Needle Bearings.

When manufacturers start to produce the *new* things for your postwar needs, you can credit Needle Bearings for many of the *new* features. For their "combat tested" advantages of compact design . . . lighter weight . . . high load carrying capacity . . . ease of lubrication . . . all combine to increase operating efficiency . . . prolong service life and lower operating costs.

And if you happen to be a manufacturer who uses bearings, consider the unusual sales and production advantages that can be gained through Needle Bearing applications in your postwar products. Listed here are a few of the principal features:

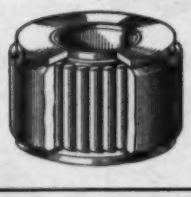
1. Small size
2. Light weight
3. High load capacity
4. Efficient lubrication
5. Ease of installation
6. Low cost

Complete information on types, sizes, and ratings, along with a list of typical Needle Bearing applications will be found in Catalog No. *30-A*. Send for your copy today.

THE TORRINGTON COMPANY

Est. 1866, Torrington, Conn., South Bend 21, Ind.

"Makers of Needle Bearings and Needle Bearing Rollers"



New York • Boston • Philadelphia • Detroit
Cleveland • Seattle • Chicago • San Francisco
Los Angeles • Toronto • London, England

TORRINGTON NEEDLE BEARINGS

ers may buy 196,000,000 lb., or 47% m
than they were allowed in 1943. (W
Food Order 4.7, as amended.)

● **Paperboard**—Specific WPB authoriza
is no longer needed on deliveries control
by Order M-378, though manufactu
must continue to reserve 40% of their p
duction for WPB orders until the 15th
each month. (Order M-378, as amende

● **Fuel Furnaces**—The provision that a m
ufacturer may produce only the types
made in the three-year period ended A
11, 1942, has been removed by WPB. T
opens the field to new producers with
the necessity of an appeal. Furnaces of
than 250,000 B.t.u. are no longer limited
casings of 26-gage and lighter steel. (Or
L-22, as amended.)

● **Lubrication Equipment**—Because
equipment is now produced in suffici
quantities to meet essential demands,
tributors and jobbers no longer need pre
ence ratings to obtain it. (WPB Order
314, as amended.)

● **Burlap**—WPB has released governme
owned damaged burlap for war essen
uses when less critical material cannot
substituted. WPB field offices will rec
applications on Form 541.

● **Knit Wear**—WPB Order L-247, limi
the cutting of fabrics for use in knit und
wear, sweat shirts, and T shirts, has b
revoked.

● **Palm Oil**—By revoking WFA 38, W
Food Administration has removed the
strictions on use which have been in ef
since March, 1943.

● **Citrus Fruit Packing**—WPB and the W
Food Administration have authorized
limited use of metal cans for packing gr
fruit segments and juice, orange juice,
grapefruit and orange juice blends. (Du
ive 6, Order M-81.)

Tightened Restrictions

To conserve butane for aviation gas
and synthetic rubber programs, from N
1, 1944, to Apr. 1, 1945, deliveries for us
fuel in drilling operations are forbid
when natural gas is available as a substi
(PAW Directive 79.)

● **Chemicals**—Chlorinated paraffin, use
a coating for textiles, was placed under
cation control for the first time when W
added this item to Order M-300 and tr
ferred to the same order acrylonitrile
penicillin. At the same time, thiamin
drochloride (vitamin B_1) was released f
allocation.

Price Control Changes

To facilitate contract-making in the
conversion period, OPA has ruled that
porters may contract for future sale
prices that can be increased up to the m
mum prices in effect at the time of deli
(Amendment 11, Second Revised Maxim
Export Price Regulation.)

● **Western Pine Lumber**—Mills may ad
per 1,000 b.ft. to their prices for resa
and surfacing two sides and may charg
per 1,000 b.ft. for center matching. Ce
pine and associated woods are given log
prices according to species and thickne
replace the single price of $28.50 per 1
b.ft. formerly established. By applyin

OPA, a producer may obtain prices on western pine molding. Any lumber for which no specific price is provided and for which no price has previously been applied for has been given a maximum price of $15 per 1,000 b.ft. (Amendment 1, Revised Regulation 94.)

• **Lime and Gypsum Products**—Sales from one producer to another may be made at prices higher than present ceilings if both buyer and seller are in the business, if the buying producer resells the commodity in the form in which he received it, and if the buying producer absorbs any increase in price. OPA must be notified before the first sale or delivery under such an agreement. (Amendment 60, Order A-1, under OPA Regulation 188.)

• **Fountain Pens and Mechanical Pencils**—Maximum prices at wholesale and dollar-and-cents ceiling prices at retail have been fixed by OPA in a new regulation, MPR 564.

• **Toilet Tissue, Paper Towels**—Manufacturers whose ceiling prices are increased may pass on the increase to each subsequent reseller. Heretofore, the purchaser who bought from the producer had to absorb the increase. (Amendment 11, Regulation 266.)

• **Fresh Cranberries**—Effective Oct. 28, country-wide ceiling prices have been raised an average of $1 per barrel because the crop loss appears greater than it was estimated (BW—Oct.21'44,p42). This means an increase of about 1¢ per lb. in the price to consumers. (Amendment 65, Regulation 426.)

• **Rough Rice**—Producers' ceilings on five varieties have been raised 25¢ to 35¢ a barrel in all states with the exception of California. (Amendment 3, OPA Regulation 518.)

• **Used Chevrolet Automobiles**—Following a survey, OPA has increased ceiling prices for models of the years 1937 to 1941 inclusive approximately 3% to bring them in line with the January, 1944, automotive guide book prices. (Amendment 3, Regulation 540.)

• **Textiles**—Experimental lots of certain textiles, apparel, and other products made under contract with war procurement agencies are exempt from price control. Commodities so exempted will be priced by contract between the manufacturer and the war procurement agency. (Supplementary Order 98.)

• **Cotton Warehouse Services**—To compensate for changed operations under the government's purchasing program on 1944-1945 cotton, OPA has increased maximum prices for storage and other warehousing services on government-owned cotton. (Amendment 181, Revised Sup. Regulation 14.)

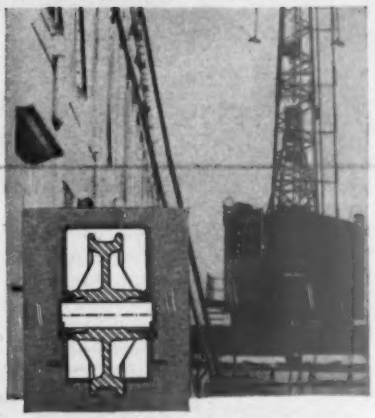
Ration Control Changes

Bakers, confectioners, breakfast cereal makers, and other industrial users of rationed foods must apply to OPA before Dec. 15 for increases in rationed food allotments or for changes in ration bases necessitated by any prerationing investment in equipment for expanding production. (Amendment 51, Revised Ration Order 3; Amendment 59, Revised RO 13; Amendment 26, Revised RO 16.)

IN THE NEWS
WITH TORRINGTON BEARINGS

THIS 80" FOUR-HIGH continuous hot strip mill, installed in one of the world's largest steel rolling plants, employs Torrington two-row tapered roller bearings to carry the heavy thrust loads encountered in the operation of the back-up rolls. Supplying the steel industry with a wide range of types and sizes of anti-friction bearings, which are "engineered" to meet severe service requirements is an important part of the service of Torrington's Bantam Bearings Division.

RIGID CONTROL in heat treatment constitutes a major reason for the successful operation of Torrington Bearings under unusual service conditions. Many special methods are used in their hardening process.



LOAD LIFTERS, such as this mammoth revolving gantry crane, play an important part in expediting the shipment of war materials. Built by the American Hoist & Derrick Company, the crane entrusts its multi-ton loads to the Torrington Needle Roller Bearings which were specified for installation in its 4-wheel non-swiveling truck. Torrington Needle Roller Bearings combine the advantage of compact design and high load capacity with economy.

IN ADDITION to meeting requirements for all major types of anti-friction bearings—straight roller, tapered roller, needle and ball—Torrington's service covers the design and manufacture of special type bearings to meet new or unusual requirements of the steel, paper, oil and other industries. If you need assistance in solving your bearing problems, TURN TO TORRINGTON.

ARMY E NAVY

TORRINGTON BEARINGS

STRAIGHT ROLLER • TAPERED ROLLER • NEEDLE • BALL

THE TORRINGTON COMPANY • BANTAM BEARINGS DIVISION

SOUTH BEND 21, INDIANA

A SPRING
means more than
just a season

—to the Ford Tractor with Ferguson System!

PERHAPS you've read about the new Ford Tractor—Ferguson System of farming. How the tractor pulls the implement at a prescribed depth in the ground. This is accomplished by an ingenious hydraulic control, the heart of which is a Muehlhausen Spring. Any variation of the resistance on the implement in the ground causes a flexing of this spring, which, in turn, controls the amount of oil in the hydraulic cylinder, thus holding the implement at a fixed depth.

This well-engineered spring is a product of the Muehlhausen modern hot-coiling plant, which specializes in heavy springs made to precision tolerances.

MUEHLHAUSEN SPRING CORPORATION
Division of Standard Steel Spring Company
775 Michigan Avenue, Logansport, Ind.

To improve product performance, use

MUEHLHAUSEN
Designed
SPRINGS

LABOR

NWLB Walkout

A.F.L. members of board, protesting delay on wage policy, refuse to take part in action on pending cases.

Consideration of organized labor's demands for higher wages got snarled in presidential election politics this week. The National War Labor Board, as a result, had one of its frequent "crises."

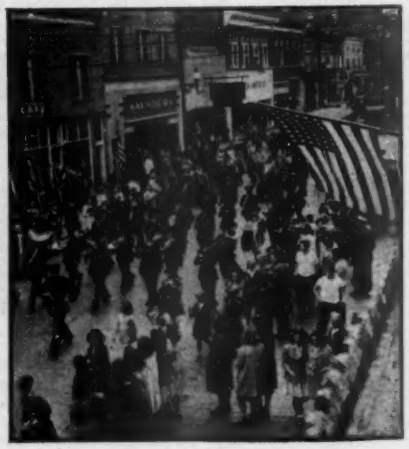
Refusal of the American Federation of Labor members to participate in consideration of pending cases involving the Little Steel wage formula in particular and the national wage policy in general grows out of their resentment against NWLB delaying tactics which have apparently succeeded in postponing a decision until after Nov. 7.

• **Fear Deal With C.I.O.**—This resentment was increased by A.F.L. fears that the Administration—as part of a deal with the C.I.O.—might decide a portion of the C.I.O. steel wage case just before the election as a means of forecasting the main decision still to come.

Such a development would be a setback for the A.F.L., which, in seeking to get credit from organized labor for breaking the Little Steel wage formula, has insisted all along that the board act not on the C.I.O. steel case but on the A.F.L. demand for a general overhauling of the wage structure (BW–Oct.14'44,p5).

• **Liaison With Dewey**—At the same time, the A.F.L. break paved the way for George Meany, A.F.L. member of NWLB and secretary-treasurer of the A.F.L., to establish liaison with Gov. Thomas E. Dewey should Gov. Dewey win the presidency. Meany was careful, however, not to get too far out on this limb. He made it clear that the A.F.L. members are not withdrawing from the board, thus making possible a strategic retreat after the election if Roosevelt is reelected.

Meany rationalized his position by insisting that the board should not proceed to consider specific cases before taking up the main question of whether the wage policy should be revised. However, he also refused to sit in on the consideration of so-called "fringe" issues—vacations, holidays, sick leaves, possibly even the guaranteed annual wage—in the main C.I.O. cases, even



ROAD SHOW

Proof that victory is not just around the corner is the march on Radford, Va., by an Army "Firepower Caravan" (left) to recruit workers for the local Hercules powder plant. Made up of 60 veterans fresh from fighting fronts, the unit uses every ballyhoo technique—from brass bands and speeches to booby trap demonstrations (right)—to convince overoptimistic workers who have left war jobs that armed forces still need supplies. The caravan is one of five now touring North Carolina, West Virginia, Indiana, Illinois, Georgia, Alabama, Wisconsin, and Missouri to recruit 56,000 workers for six critical war plants. They were set up by the Army's public relations bureau after a call for help from War Manpower Commission.

"What Will People Say!"

WHEN Maisie appeared on the beach her mother heard what was said all right—and promptly got "one of those new bathing costumes" for herself.

Which is pretty much what happens whenever a progressive idea comes along.

Take the auto. Folks who yelled "Get a horse" when the first horseless monsters snorted down Main Street soon knew a good thing when they saw it" —the second time, anyway.

And people who, at first, "couldn't see any use for a telephone" now have to be asked to limit their calls.

Look at "the comics" as another example of hearty acceptance of a new idea.

They're acknowledged today as a basic educational force. The Army Air Force uses the "picture story" technique to train aviators. Teachers find it invaluable as a teaching aid in classrooms... while in Sunday Schools across the country, children are learning a better understanding of the Bible through stories in pictures. And, to quote a recent Fortune Magazine poll—"Four out of five persons who buy newspapers read comic strips."

No wonder 48 leading manufacturers advertise their names and products in Puck-The Comic Weekly, the majority of them consistently year after year.

These firms *proved* Puck's worth. They have found what tremendous sales power there is in getting their advertising "next to" a picture story starring such popular and beloved personalities as "Jiggs and Maggie," "Blondie and Dagwood," "The Little King," "Prince Valiant," "Little Annie Rooney," "The Katzenjammer Kids," and all the others who "live" in Puck's great all-star cast.

No less than 20,000,000 people read Puck every week. Distributed through 15 great Sunday newspapers from coast to coast, Puck is "family reading" in over 6,500,000 homes.

In the post-war period, Puck will be even more important, because to millions it's been "an oasis of fun" in a war-torn world...a weekly publication peculiarly close to the hearts and the minds of the American people.

For more information about how this publication can help sell your company's name or product, just call or write Puck-The Comic Weekly, 959 Eighth Avenue, New York 19, N. Y., or Hearst Building, Chicago 6, Ill.

The Advertisers

Following are the names of the manufacturers whose advertising has appeared in Puck during the last year. The majority have run consistent schedules—year after year

Bauer & Black Ltd.
Bendix Aviation Corporation
Walter J. Black, Inc.
Bristol-Myers Company
Chesebrough Mfg. Co. Consolidated
Chrysler Corporation
The Coca-Cola Company
Colgate-Palmolive-Peet Company
Corning Glass Works
The Cudahy Packing Co.
Derby Foods, Inc.
Devoe & Raynolds Co., Inc.
Doubleday, Doran & Co., Inc.
Doughnut Corp. of America
Eversharp, Inc.
Frank H. Fleer Corp.
F. W. Fitch Company
General Electric Co.
General Mills, Inc.
A. C. Gilbert Co.
Gillette Safety Razor Co.
The Grove Laboratories, Inc.
Geo. A. Hormel & Company
International Cellucotton Products Co.
The Andrew Jergens Company
"The 'Junket' Folks"
(Chr. Hansen's Laboratory, Inc.)
Lambert Pharmacal Company
Lamont, Corliss & Company
Thomas Leeming & Co., Inc.
Lever Brothers Company
The Lionel Corporation
Maybelline Company
The Mennen Company
Pepsi-Cola Company
The Pepsodent Co.
Pillsbury Flour Mills Co.
Procter & Gamble Co.
The Quaker Oats Co.
Ralston Purina Co.
R. J. Reynolds Tobacco Co.
W. A. Sheaffer Pen Co.
Standard Brands, Inc.
Twentieth Century Fox Film Corp.
Unicorn Press
U. S. Army Recruiting Service
Van Camp's, Inc.
Wilson Chemical Co., Inc.
William H. Wise & Co., Inc.

*After Victory

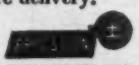
"Children! Turn off your book and go to sleep!"

Tomorrow's "five-foot shelf of books" may well hold thousands of volumes of this sort—books on micro-film, projection on screen, wall or bedroom ceiling. Educators especially can use them to make study books more enjoyable. The equipment to make and project such books will call for infinite precision...available on a *mass-production, low-cost* basis.

That has been our preoccupation for the last thirty years and war has only intensified the lessons we've learned about mass production of close tolerance on an efficient basis.

Like many producers for the war effort, we have completed the initial phase of our war program. Adjustments now make it possible to a limited extent to invite inquiries for production of precision parts for future delivery.

(Below) A few of the many thousands of our precision parts that help "Keep 'em flying and fighting."



ESTABLISHED 1911

Let's all back the attack—Buy EXTRA War Bonds

ERICSSON

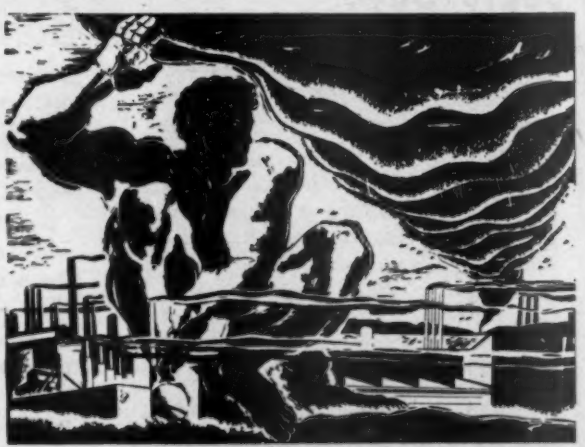
SCREW MACHINE PRODUCTS CO., INC.

25 LAFAYETTE STREET, BROOKLYN, N. Y.

★

the fire of dauntless courage

★



Kindled in the torch of American liberty, blown into consuming flame by the bombs of treacherous little men and stoked by the driving energy of a great nation . . . the spark of freedom became a roaring fire of courage. Quickly, it welded the resources of Democracy into invincible might. Now, in its glorious glow, free men see the vision of victory. When this vision has become reality, Allen's entire resources will be turned to supplying the tools of business accuracy

R.C.Allen Business Machines

ALLEN CALCULATORS, INCORPORATED

678 FRONT AVE. N. W., GRAND RAPIDS 4, MICH.

Makers of World Renowned Business Machines

10-Key Calculators • Portable and Standard Adding Machines • Bookkeeping Machines • Cash Registers
Statement Machines • All-Purpose Office Machines, Electric or Hand Operated

though board policy on many of these questions is well established.

With the A.F.L. members absent the board began formal discussion of these side issues in the steel case, and it was possible that some decision might be announced before the election.

• **Decision Postponed**—The decision of NWLB's special cost-of-living committee to postpone consideration of its report to President Roosevelt until Nov. 9, two days after election, made clear what had long been suspected, that an announcement on the general question of smashing or retaining the Little Steel wage formula is being postponed until after the election.

Then, it is expected, new procedure will be devised to make it possible for the A.F.L. to return to the board sessions.

• **Solution Hunted**—Meanwhile, board economists will have plenty of time to devise ways of getting the board over its chief dilemma: How do you raise wages without raising prices?

Board officials seem clear on one thing: Wages ought to be raised after war contracts are cut back to offset partially the decline in overtime earnings. Such an adjustment can be made, the Administration believes, without boosting prices because the cost of premium pay for overtime will be saved.

• **Price Line Menaced**—However, organized labor, particularly the C.I.O., points out that labor has little chance of securing such an adjustment after the cutbacks when unemployment is expected to hold wages down. Yet, if the adjustment is ordered effective immediately—before the cutbacks—the Administration fears prices will have to be increased. Such increases in prices would wipe out part of the wage rise and upset many reconversion calculations.

If the board decides to wait until V-E Day to make a wage adjustment on the assumption that reconversion unemployment will be shortlived—the Administration will have to devise means of selling the proposal to organized labor.

The C.I.O. has undoubtedly refrained from publicizing its objections to the board's handling of the wage cases because of the election. After the election these restraints will vanish.

OIL WORKERS REJECTED

Victory for the Standard Employees Assn. in a collective bargaining election at the Richmond (Calif.) refinery of Standard Oil of California has been followed by withdrawal of a C.I.O. request for an election at the corporation's El Segundo plant in southern California.

The association received 1,155 votes

o 877 for the Oil Workers International Union (C.I.O.) and 58 for no union in the Richmond plant.

The election, sought by the C.I.O., climaxed an aggressive campaign conducted by the Oil Workers. Full-page newspaper advertisements, radio programs, and speeches were used.

Flareup in Toledo

M.E.S.A. strikes Electric Auto-Lite for invoking U.A.W.'s membership-maintenance rule. Sympathy walkouts follow.

Jurisdictional rivalry between the C.I.O. United Auto Workers and the Independent Mechanics Educational Society of America boiled into a strike this week at the Electric Auto-Lite Co., Toledo, Ohio.

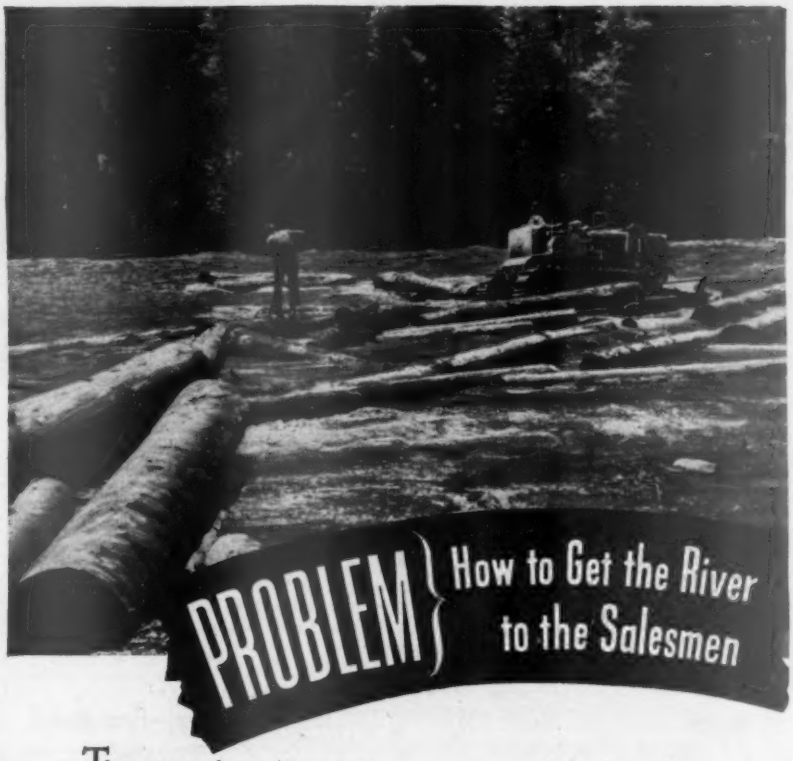
A score of sympathy walkouts flashed across the Toledo industrial front, and the M.E.S.A. threatened to call more in Detroit.

Dismissals Protested—Electric Auto-Lite, under the obligation imposed by its maintenance-of-membership contract with the U.A.W., discharged six employees who were blacklisted by that union for failure to remain in good standing. The M.E.S.A. countered that the only offense of the six was to join the mechanics' union—that they did not drop their U.A.W. membership.

Retaliating by calling out its 350 members at Auto-Lite, the M.E.S.A. carried the fight to the U.A.W. by striking other Toledo plants where the two unions exist, with varying degrees of tolerance, under one roof—Willys-Overland and Packard's aircraft engine division, among others. About 4,500 workers struck, and about 10,000 others were prevented from working because of the strike.

A Pressure Move—As the National War Labor Board put its trouble-shooters to work on the strike, M.E.S.A. strategists called together their representatives in 23 Detroit plants and obtained promises of sympathetic strikes on the home grounds of the U.A.W. if the M.E.S.A. executive board deems them advisable. The apparent purpose of this move was to increase the pressure in M.E.S.A.'s favor on the Auto-Lite negotiations at Toledo.

The city-wide strike, a favored M.E.S.A. technique, was last threatened about a month ago in Cleveland to back up demands of members at the Cleveland Graphite Bronze Co. that a discharged worker be reinstated. Negotiations which followed that dispute are still in progress.



The scene above illustrates three of the many ways in which motion pictures help train salesmen . . . by bringing *far-distant* product applications to trainees, by showing *seasonal* product uses at *any* season, and by explaining manufacture from raw material to finished product.

Many sales trainees are coming from our Armed Forces. Accustomed to being taught with movies, these men will expect employers to use movies for quick, effective, thorough sales training.

Sales training films can reveal features which are hidden in the product itself. They can tell their stories to audiences of any size, logically and dramatically, so that *all* can see and hear. They focus attention where the instructor wants attention. They can bring to sales training such aids to understanding as animation and slow motion.

To get the full story of how motion pictures can aid in training salesmen, or in selling your product, training workers, or improving employee relations, send for the helpful new booklet, *Movies Go to Work.* Simply pin the coupon to your letterhead.

Bell & Howell Company, Chicago; New York; Hollywood; Washington, D. C.; London. *Established 1907.*

★ ★ ★

TOMORROW'S FILMOSOUND

The B&H Filmosound 16mm. sound-on-film projector of tomorrow will set new high standards in industrial film projection. For it will embody new features resulting from the B&H engineered, combat-tested principles of Opti-onics.

Buy . . . and HOLD War Bonds

BELL & HOWELL COMPANY
7116 McCormick Road, Chicago 45
Please send, without charge or obligation, a copy of the new industrial film booklet "Movies Go to Work."

Firm.....

City.....State.....

Requested by.....BW 11-4-44

Products combining the sciences of OPTics • electrONics • mechanICS

PRECISION-MADE BY

Bell & Howell

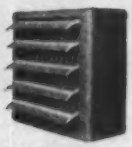
HOW TO SELECT THE RIGHT UNIT HEATER FROM THE NATION'S MOST COMPLETE LINE

THE TRANE PROJECTION HEATER

Use it: 1. Where ceiling mounted units are advantageous. 2. To heat high spaces up to 40 feet and more. 3. Where crane clearances prevent the use of other units. It tucks up under the ceiling. 4. To salvage waste heat in sawtooth and monitor construction. 5. In locker areas or other places where objects interfere with air circulation of conventional units.

THE TRANE PROJECTION HEATER WITH DIFFUSER

Use it: 1. At mounting heights as low as 8 feet. 2. Where workers are stationed at benches or desks. 3. Where it is desirable to fur unit into the ceiling. 4. To provide equalized temperature at the floor-line. 5. To prevent obnoxious air currents at or near the floor-line.



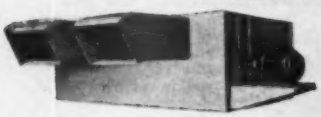
THE TRANE PROPELLER TYPE UNIT HEATER

Use it: 1. For quiet operation. Its broad bladed fans have a low noise level. 2. Where it is uneconomical to use other type units. 3. Where the Projection Heater for some reason or other cannot be used. 4. With recirculating box for ventilating a variety of building space. 5. For flat roofed, low buildings.

THE TRANE TORRIDOR UNIT HEATER (Blower)—Floor Model

Use it: 1. Because of its high velocity in spaces where long horizontal distances of throw are necessary. 2. In factory spaces where a free standing floor unit may be required. 3. To blanket two doorways from one unit set between the doors. 4. For effectively heating high areas by means of extended nozzles and the use of cold air from the floor. 5. Where fresh outdoor air is required.

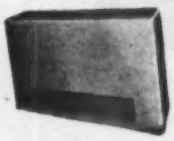
THE TRANE TORRIDOR UNIT HEATER (Blower)—Ceiling Model



Use it: 1. For long corridors as found in hospitals, etc. 2. For ductwork application in a central heating plant. 3. Where cooling may be desired at a later date. 4. Where the heating unit is to be outside the space to be heated. 5. In large areas where walls are not available to support the unit and it cannot be placed on the floor.

THE TRANE TORRIDOR UNIT HEATER (Blower)—Wall Model

Use it: 1. For gymnasiums or other areas where floor area must be kept free. 2. In those areas where heating units must be inset in wall. 3. Where high mounting is required but cranes, etc. prevent ceiling mounting. 4. For drying applications. 5. Process applications.



THE TRANE FORCE FLO UNIT HEATER

Use it: 1. For unit heating where the pleasing appearance of a cabinet is required. 2. For quiet operation in offices and similar locations. 3. For doorway heating in hotel lobby, etc. 4. Where large quantities of heat from a single unit are desired. 5. For floor, wall and ceiling installations.

AND WHY PICK A TRANE UNIT HEATER?

1. Trane is the leading manufacturer of unit heaters. 2. Trane furnishes a complete line of unit heaters, thus its recommendations are unbiased. 3. Trane developed the Projection Heater now universally considered as the modern type of unit heater for most applications. 4. The heart of each Trane Unit Heater is the famous Trane Extended Surface Heating Coil that guarantees long trouble-free service. 5. Designed by one of the finest staffs of engineers in the industry.

THE TRANE COMPANY

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TRANE COMPANY OF CANADA, LTD., TORONTO

AIR CONDITIONING · HEAT TRANSFER · AIR HANDLING EQUIPMENT

P.S. *Write for your copy of the new 84-page Trane Products Bulletin.*

Workers Will Stay

Seattle polls its labor force, finds that 79% hope for postwar jobs there, mostly in the service trades and manufacturing.

Postwar planners of the Seattle (Wash.) area now have a clearer idea of the problem they face in providing employment. About 79,000 more jobs than are in sight now will be needed after the war.

• **Workers Polled**—Last spring three groups—the Committee for Economic Development of the Seattle Chamber of Commerce, the Bureau of Business Research of the University of Washington, and the Twelfth District Federal Reserve Bank—cooperated on a survey, a random sampling of 7,708 Seattle workers.

A letter from the president of the chamber and the mayor of Seattle went to each worker approached in the study. The workers were asked twelve questions.

• **Replies Tabulated**—From the 1,602 workers (about 21%) who responded came these replies:

(1) Work in the Seattle area is wanted by 79%; in the Pacific Northwest or Alaska by 8%; not planning to remain in the Northwest, 5½%; no work wanted anywhere, 7½%.

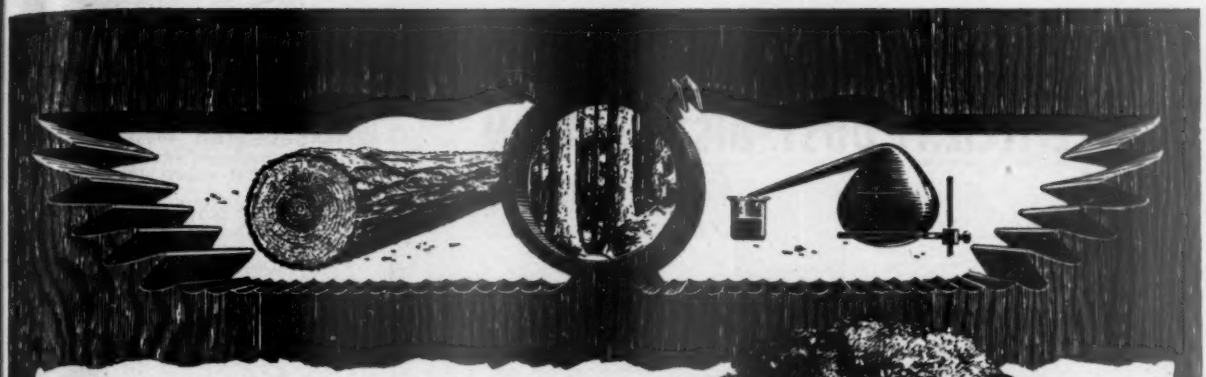
(2) Of those wanting work, 25% prefer jobs in manufacturing, 23% in service industries, 12% in wholesale and retail trade, 8% in building trades, 6% in professions, and the remainder in scattered occupations. Only about 3% plan to go into business for themselves, mainly in retail and service establishments.

(3) About 8% of the workers who responded had lived in Seattle less than one year, 13% from one to two years, 19% from two to three years, and 11% from three to four years. Almost half had lived in the area four years or longer.

(4) Among those living in the city four years or less, 29% came from other parts of Washington, 22% from other parts of the Pacific Northwest and Alaska, and 49% from other states.

UNION LOSES AT ARMCO

The sixth attempt by the United Steelworkers of America (C.I.O.) to organize American Rolling Mills Co. plants has ended in defeat. In its third unsuccessful test of strength at the Butler (Pa.) mill, C.I.O. lost an election 1,301 to 987. A year ago the union lost there by only five votes.



NATURE'S "CHEMICAL PLANT"

For millions of years, trees have been converting the chemicals of the earth, air and water . . . into wood.

Converting wood into chemicals became possible on a large and efficient scale when Worthington engineered a centrifugal pump that handles corrosive wood pulp liquors with complete success.

Turning wood chips into the stuff that paper and rayon are made of . . . is only one phase of industrial chemistry in which Worthington machines are playing an important part. *Pumps* helping to extract metals from sea water . . . high vacuum equipment distilling delicate pharmaceuticals in atmospheres as thin as interplanetary space . . . *refrigeration* machinery removing heat caused by chemical reactions . . . *air compressors*, pushing, stirring, atomizing . . . also illustrate the breadth of Worthington's contribution to advancing chemistry.

Worthington Pump and Machinery Corporation, Harrison, N. J. Works, Offices and Representatives throughout the world. *Subsidiaries:* Worthington-Gamon Meter Company, Newark, N. J. Ransome Machinery Company, Dunellen, N. J. Electric Machinery Mfg. Company, Minneapolis, Minnesota. Canadian Associates: John Inglis Co., Ltd., Toronto.

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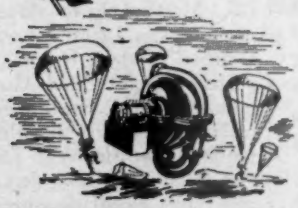
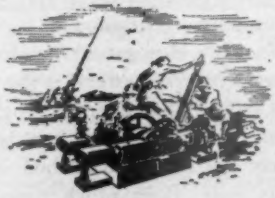
Power Plant Equipment • Turbines & Turbine-Generator Sets
Diesel & Gas Engines • Pumps and Compressors • Air Conditioning & Refrigerating Equipment • Power Transmission Equipment • Construction & Mining Machinery • Locomotive Feedwater Heaters • Welding & Assembly Positioning Equipment
Liquid Meters

Chemical Industries Back the Attack with the Help of Worthington Machines



A soldier's parachute may be made with the help of Worthington refrigeration equipment. Cellulose must be cooled while preparing the viscose solution which is spun into cloth.



The explosive he fires is based on synthetic ammonia, manufactured by uniting hydrogen and nitrogen under high pressures with the help of Worthington compressors.

The blood plasma he needs is processed in high vacuum. Plasma and penicillin both are prepared with the help of Worthington steam jet ejectors and vacuum pumps.

A Pictograph
OF EFFICIENT DUST DISTRIBUTION

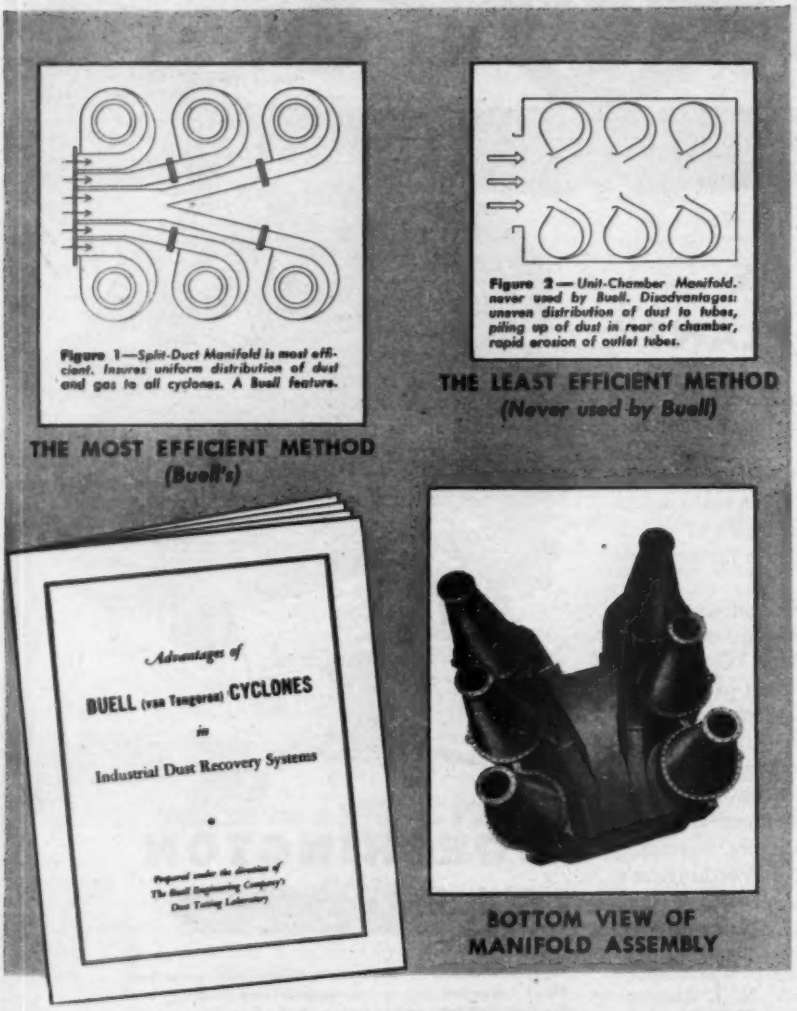


Figure 1—Split-Duct Manifold is most efficient. Insures uniform distribution of dust and gas to all cyclones. A Buell feature.
THE MOST EFFICIENT METHOD (Buell's)
Figure 2—Unit-Chamber Manifold. never used by Buell. Disadvantages: uneven distribution of dust to tubes, piling up of dust in rear of chamber, rapid erosion of outlet tubes.
THE LEAST EFFICIENT METHOD (Never used by Buell)
Advantages of
BUELL (van Tongeren) CYCLONES
in
Industrial Dust Recovery Systems
BOTTOM VIEW OF MANIFOLD ASSEMBLY

Every engineer and operating executive should have a copy of the bulletin shown above as his guide in the selection of the right dust collection equipment.

Buell Design **ELIMINATES CLOGGING**
MINIMIZES EROSION

The scientific development of inlet manifolding for multiple unit cyclone dust collectors has played an all important part in the uniform distribution of both gas and dust in cyclone collectors. How proper manifolding is achieved in Buell Dust Recovery Systems is shown in the pictograph on this page. What happens when the dust load is not uniformly distributed, and how serious these disadvantages may be, is best described in the bulletin shown on this page, from which these two manifold sketches were taken.

BUELL ENGINEERING COMPANY, INC.
60 Wall Tower, New York 5, N. Y.
Sales Representatives in Principal Cities

DESIGNED TO DO A JOB, NOT JUST TO MEET A "SPEC"

M. of M. Prevails

NWLB holds that it's not in conflict with Wisconsin law, but even if it were, that wartime powers are paramount.

The National War Labor Board has ruled that a standard maintenance-of-membership clause does not violate the Wisconsin labor control act. And even if it did, the board asserts, it could still direct inclusion of such a provision in contracts to settle labor disputes affecting the war effort.

Similar issues have arisen in Alabama (BW–Sep.9'44,p100), and the stage has been set for others in several states which have enacted labor control laws.

• **Partial Compliance**—The Wisconsin dispute involved the Cudahy Brothers Co., a meat packing firm in Cudahy, Wis., and the Packinghouse Workers Organizing Committee (C.I.O.) which claimed to represent 1,400 workers.

In January, 1944, a regional war labor board ordered Cudahy to put into effect a contract which included, among other provisions, m. of m. and checkoff of union dues. The company complied with all provisions of the order except the m. of m. and checkoff, which it contended were contrary to the Wisconsin Employment Peace Act.

• **Cases Not Parallel**—The company cited a ruling of the Wisconsin Supreme Court in a case brought by the United Auto Workers (C.I.O.) against the Wisconsin Motor Products Co., as the basis for its contention that m. of m. is illegal in Wisconsin.

NWLB ruled out the company contention on the grounds that the cases were not parallel and that numerous other Wisconsin employers are operating under m. of m. and the checkoff without having been charged with violation of the state law.

• **Precedent Set**—In an earlier case involving m. of m. and the checkoff in Wisconsin, the NWLB ruled similarly, ordering the J. Greenebaum Tanning Co., Milwaukee, to abide by m.-of-m. provisions in a contract with the Fur & Leather Workers Union (C.I.O.).

• **State Support Cited**—Concurrently, an opinion by Jesse Freidin, general counsel of NWLB, asserts that the board is not required by the War Labor Disputes Act to conform its orders to state laws, and offers recent decisions of the Wisconsin Supreme Court and an appellate court in Illinois supporting this view.

In the Wisconsin case, the high state court suspended for the duration an order by the state employment relations board invalidating a union shop at the

nelander Paper Co., Rhinelander, . The union shop had been ordered a regional war labor board despite requirement in Wisconsin that a n shop must be justified by a e-fourths vote of the employees who involved.

Won't Intervene—In Illinois, the ellate court declined to disturb an trator's award appealed by Frank ndries Co. of Moline on the ground the federal labor disputes act, where lied to disputes substantially affect- the war effort, "supersedes all statu- enactments of this state on the ject, general and special."

n Alabama, the State Dept. of Labor approved contracts containing of-m. clauses as not in violation of state's labor regulatory laws (BW—g.26'44,p26). The department, how- made a point of challenging all tentions that orders by governmental cies can supersede state laws with ich they are at variance.

NLRB's Indorsement—The National bor Relations Board also has ruled its orders have precedence over flicting state legislation. A decision

ospective issue in future automo- e labor contracts is the C.I.O. auto ion's new counselor service which lps members with personal prob- ns. Under the setup now operating 35 shops, a trained social worker on hand to interview employees ove) during lunch periods and off- rk hours. Thus determining their blems, the counselor performs h services as obtaining legal ad- e, finding a house or medical aid her "clients." But management eements would be needed for unselors to operate during work urs and to use company facilities.

MOVE YOUR MAILROOM OUT OF THE "WOODSHED"!

YOUR mail-handling department is the heart of your office. On it depends the smooth functioning of every part of your organization. Move it out of the "woodshed." Give it the place of importance it deserves so that it will handle both incoming and outgoing mail smoothly and speedily.

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2 STOP WASTE OF TIME! Your office can't get going on the day's new business until incoming mail reaches the desks of your key men. Delayed distribution can waste plenty of time and money and slow up your entire office.

3 GET RID OF THE 4:30 JAM in your mailroom! "Woodshed" mail-handling methods mean missed trains and planes for many a letter that hits your mailroom late in the afternoon. Result? Lost business and good will.

4 PLAN NOW TO MODERNIZE your mailroom—to move it out of the "woodshed"—with U. S. Postal Meter machines and mail-handling systems. Our specialists will gladly help you plan your postwar mailroom now, without obligation.

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Mercury Engineers are men with broad experience in material handling. They will be glad to consult with you on your specific problems without cost or obligation. Call a Mercury Engineer TODAY.

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TRACTORS • TRAILERS • LIFT TRUCKS

ordering Eppinger & Russell Co., Jacksonville, Fla., to bargain with the C.I.O. held that Congress, in setting up wartime labor relations machinery, did not intend that federal laws should be subject to varied and sometimes conflicting provisions of state laws (BW—Jul.1'44, p94).

Unions Get Time

Networks allot broadcast periods free to A.F.L. and C.I.O., but unions still are fighting for right to buy time.

Organized labor will take to the air on three of the four major radio networks in 1945, having achieved a major step in its quest of free broadcasting time.

• **Equal Time**—NBC, the Blue, and Columbia have allotted equal time to the two rival labor organizations, A.F.L. and C.I.O. Mutual Broadcasting System, in the throes of executive reorganization, has promised time for special labor features but has not set aside regular periods.

The labor bodies will prepare their own scripts, but they will be subject, as usual, to network censorship.

• **Still Want to Buy**—The unions' acceptance of free time in no way diminishes the vigor of their fight for the right to buy broadcasting time.

The networks, adhering to the code of ethics of the National Assn. of Broadcasters, decline to sell time for the airing of so-called controver sues or the solicitation of paid me ships (BW—Aug.26'44,p88).

• **Shotgun Settlement**—Labor dent in this code last week (BW 28'44,p7). Station WHKC, Colu Ohio, under fire from the C.I.O. U Auto Workers and its license re hanging in the balance, repudiate code and agreed before the F Communications Commission t time to the union for broadcasts own choosing, subject only to c ship of slanderous matter.

The C.I.O. is keeping a dossi individual stations for reference their licenses come up for renew fore the FCC, obviously with the i tion of exerting the same pressure changed the mood of WHKC.

• **Schedule Outlined**—At the outs 1945, the C.I.O. will be on two works (Blue and Columbia), the A on one (NBC); but by rotation division of time will have been e ized by the end of the year.

Starting Sunday, Jan. 7, from 1: 1:30 p.m. (EWT), and continuin 13 weeks, NBC will air the A Labor Forum. At about the same the C.I.O. will take over a Sat night spot on the Blue for 26 w and another spot, as yet undeterm on Columbia for 13 weeks.

• **Even Exchange**—Early in April, labor organizations will exchange NBC and Columbia periods, A shifting to Columbia, C.I.O. to N And in July, when the C.I.O. has pleted its 26-week run on the A.F.L. will take over for a similar

A previous contribution of time

With Malice Toward None

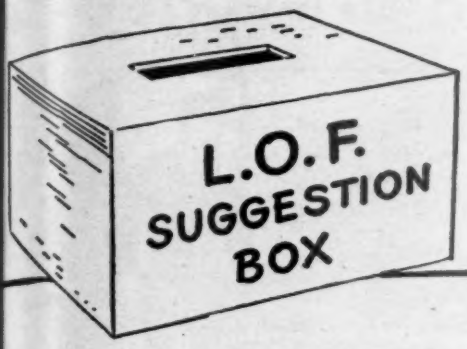
Almost every editor can blame a simple typographical error for his most embarrassing moment or even his tightest legal squeak. But seldom is his explanation made for him by the injured subject—with such a friendly approach as that reflected by a display ad (right) in the A.F.L.'s Minneapolis daily Labor Review.

Referring to a recent Review boner which credited General Mills, Inc., with an utterly impossible profit on each sales dollar, the ad takes a swing at the "misbehaving" decimal point—instead of at the publisher.

With sketches and a few whimsical lines in its 16-in. ad, General Mills tells how a peripatetic decimal point jumped out of place in the printer's galley to present the company's dollar profit as $1.97 instead of the correct $.0197.

Signing off its adroit message wit "Best Wishes," General Mills tel in graphic charts (not shown) ju why only about 2¢ of every sal dollar is profit.

The case of the misbehaving decimal point
who once worked for the Labor Review
$1.97 profit per dollar of sales
Best wishes,
General Mills, Inc.



How to maintain high standards of cleanliness ... with *Glass*

ON THE PRODUCTION LINE

Glass surfaces are used widely where cleanliness is important to production or inspection of precision equipment. They're easy to keep immaculately clean. And they offer a hard, smooth and extremely flat working surface.

IN THE CAFETERIA

Clean, sparkling surfaces of glass are an incentive to personnel to keep a cafeteria as clean as possible. Because glass absorbs no liquids or odors—cleans quickly, easily and thoroughly—it is ideal for restaurant uses.

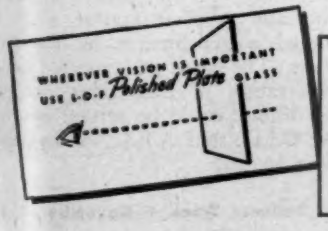
IN THE LABORATORY

Laboratories often must be kept as spotlessly clean as a hospital operating room—to prevent contamination of chemicals or foods. Glass surfaces make maintenance of sanitary conditions easier—more certain.

GLASS can serve industry far beyond the employment of its permanent transparency. It has hardness, smoothness and nonporosity that are valuable characteristics for equipment, buildings and finished products.

For resistance to weather, to acids and other elements generally considered destructive, glass is in a class by itself. And, tempered, it has surprising resistance to physical and thermal shock.

Today, glass has amazing versatility—in shape, color and finish. Discussion with us may reveal ways glass can help you speed production, cut costs or improve the performance and salability of your product. When may we talk with you? Libbey·Owens·Ford Glass Company, 55114 Nicholas Building, Toledo 3, Ohio.



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Important questions concerning the safety of your plant are answered in the DETEX Plant Protection Manual. Send for your FREE COPY today.

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INGENUITY

THROUGH creative engineering, we already have helped set manufacturers on the right road with the right product. In many instances, we are co-operating with parts production in our own plant. Whatever your problem in metal, write me on your letterhead as one executive to another.

Joseph J. Cheney, President

*Also glad to send our book, Ingenuity.

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TOOL & MANUFACTURING CO., Inc.
19 HOWARD ST. AD No. 34 BUFFALO 6, N. Y.

THEY STOP TRAFFIC

Eyebrow lifters for visitors but a solution to manpower crises for city fathers are feminine traffic cops at San Francisco. Unable to compete in labor markets against California plane plants and shipyards, police offici are hiring women for the less rigoro beats. And so far with fair result Among San Francisco's concessions its lady bluecoats are motorcycl equipped with rear cars—instead the usual two-wheeler models.

NBC, the Sunday afternoon Labor for Victory program, ultimately proved unacceptable to both labor organizations, the A.F.L. objecting to sharing the time (in alternate weeks) with its rival organization, and the C.I.O. complaining because it could be heard only once in two weeks.

SENIORITY RULES DEBATED

Pressure for relaxation of seniority rules is increasing within unions as production cutbacks force payroll reductions and the traditional policy of last-hired, first-fired, takes effect in wholesale volume.

Last week, in a convention marking its emergence as an autonomous union of the C.I.O., the United Federal Workers came to grips with the same problem.

The U.F.W. delegates argued to a standstill a proposal that seniority rules be revised to the extent that the present proportion of women and Negroes in federal jobs be maintained. A similar proposal was offered at the New Jersey C.I.O. meeting several weeks ago.

As the C.I.O. withdrew its U.F.W. administrator to make room for elected officers, Eleanor Nelson, only woman member of the C.I.O. national executive board, was chosen president. She is the first woman to head an international union in the C.I.O.

INTERUNION ROW EVADED

The 18th strike of San Francis shipyard machinists since the beginni of the war threatened to drag the N tional War Labor Board into a na jurisdictional row between two A.F craft unions this week, but the boa wriggled off the spot.

About 2,500 A.F.L. and C.I.O. m chinists walked out claiming histor jurisdiction over installation of hange and valves on which, they claime A.F.L. steamfitters were at work. T strike paralyzed work on 21 ships in t dissension-ridden yards.

The strike was ended when NWL brought the heads of the warring A.F unions together. But failing to achie an immediate settlement of the dispute NWLB ordered the status quo mai tained and directed a fact-finding age to decide which of the unions actual was doing the work when the stri occurred. The agent's decision will b binding until the A.F.L. resolves t jurisdictional controversy.

NWLB medicine from the same sho was ready for the C.I.O. machinist who also rebelled against what the termed encroachments by the steam fitters. The board was expected to ord preservation of the status quo unt the dispute could be settled jointly b the C.I.O. and A.F.L., or by arbitra tion.

E WAR AND BUSINESS ABROAD

NESS WEEK
EMBER 4, 1944

Two momentous developments have drastically altered (1) the strategy of the war in the Pacific, and (2) this country's long-term relations with China.

●

Decisive defeat of the main part of Japan's navy means that:

(1) Tokyo can no longer effectively defend its conquests in Burma, Malaya, the Netherlands Indies, French Indo-China, or the Philippines because it cannot deliver reinforcements.

(2) Raw materials essential to Nippon's basic war industries cannot be guaranteed from any region south of Formosa.

(3) The United Nations, as soon as Manila is occupied, will attack Formosa, key to Japan's inner circle of defenses. Without full naval strength and command of the air, Tokyo cannot possibly hold out for long in the four ports which are keys to the whole island.

(4) **There is no longer any reason to plan an overland drive against Japan from southern Chinese bases nearly 2,000 miles away. With the Nipponese navy neutralized, the Allies can continue their bold over-sea hops in a drive straight for the China coast at the point where it is nearest Japan.**

●

The war in the Pacific may yet end in a great showdown on the plains around Tientsin and in southern Manchukuo (where Russia will almost surely play a part), and in devastating sea and air attacks on Japan's vulnerable seacoast industrial centers, or in an amphibious invasion of the Nipponese mainland from bases still to be won via the west coast of Korea.

A half-dozen points along the China coast can be easily taken by the Allies when the remnants of Nippon's navy are squeezed into home waters.

●

Don't miss the significance of the second spectacular development in the Far East—the removal of General Stilwell from the China-Burma-India command.

The week's developments at Chungking mean that the U. S. has decided from now on to discount China's part in the great Far Eastern offensive against Japan.

With the new assurance that the showdown against Nippon can now be carried by the Navy to the heart of the Empire (Japan and Manchukuo), difficult military operations in central China and Burma and irksome diplomatic maneuvering in Chungking are sidestepped in this one bold move.

You can now look for:

(1) **Chungking to drop into the background.**

(2) **The Allies**—operating through a military government—**to take a firm hold of populous coastal areas of China when they are liberated.**

(3) **Chiang Kai-shek to be forced into progressive liberalization of his government** if he is eventually to assume control of the government of liberated China.

It will surprise no one if General Stilwell turns up in command when Allied forces are eventually landed along the China coast.

●

The battle of Formosa, when it comes, will mean more to Japan than merely the struggle to hold a major naval bastion.

This island, only 90 miles off the China coast, provides Nippon with its last major source of sugar and tropical fruit, and it supplies bunkering coal and petroleum in sizable quantities. It also produces small amounts of badly needed copper, sulphur, carbon black, and lumber.

On the other hand, once the island is in Allied hands its surplus of rice,

tea, sweet potatoes, sugar, and fish can be used to help meet the food shortages in whatever parts of China Allied forces land.

•

In Europe, stepped-up bombing of communications in the Rhine valley and the steady drive to clear the huge undamaged port of Antwerp (second in Europe) for heavy duty set the stage for the impending Allied showdown with the Nazis (BW—Oct.28'44,p107).

Prime Minister Churchill's pessimistic statement that the war with Germany could last until summer was intended to (1) **block urgent demands for extensive industrial reconversion now,** (2) **warn that the need for a large police force will keep British troops in Germany long after the last formal battles are fought, and** (3) **prevent a general election now.**

•

Neutral nations dreaming of making a rakeoff by rushing postwar supplies to war-pinched countries should take a tip from the blunt warning issued to Swedish shipowners this week.

Anticipating an acute shortage of ships in the first months after V-E Day, Swedish owners have been building—at wartime prices—fast, supermodern freighters with which they hoped to cop a heavy share of the cargo business at their own prices.

The United Nations, however, have pricked this bubble by warning Sweden that they intend to create a postwar international shipping pool which will fix arbitrary charter and freight rates—inevitably far below the bonanza levels anticipated by the Swedes.

•

Sweden, nevertheless, is managing to swing into postwar trade ahead of some of its competitors.

Using five Finnish ships which were interned at Swedish ports as long as Finland was actively in the war, **it has commenced delivery to Russia of $15,000,000 of agricultural machinery and electrical appliances.**

A prewar credit of $25,000,000, arranged in 1940 but suspended when Hitler attacked Russia, is being filled now with supplies completed and warehoused during the war.

•

Following Russia's lead in seeking to set up a permanent exhibit of American machinery and equipment at Moscow (BW—Sep.16'44,p12), **French officials are now drawing up similar plans for an exhibit of U. S. goods to be opened as soon as possible at Paris in order to help French industrialists plan their rehabilitation along the most modern lines.**

U. S. manufacturers, despairing—due to the lack of transport facilities (BW—Oct.28'44,p7)—of getting to Europe any time soon to survey equipment needs and the condition of their branch factories, may yet find this French proposal the most effective way of selling in the early postwar markets of Europe.

•

Despite efforts of William Batt to interest the governments concerned in maintaining the Combined Boards on a modified basis after the wartime emergency has passed, the decision has just about been reached that the boards will go when the war ends.

Official U. S. policy is to return to multilateral trade agreements as preferable to the limited-nation combined board plan.

London prefers to mend its economic fences and face the future unhampered—at least until it knows what U. S. trade policy is going to be.

Contents copyrighted under the general copyright on the Nov. 4, 1944, issue—Business Week, 330 W. 42nd St., New York, N. Y.

Power for Mexico

Ten-year program aimed at expanding generating capacity to serve every town of 1,500 or more. Cost set at $60,000,000.

MEXICO, D. F.—With more than 2,000,000 of its 22,000,000 inhabitants still beyond the reach of electricity, Mexico is now at work on a comprehensive ten-year program to bring electric lines to every Mexican town with a population of 1,500 or more. The full project is expected to cost at least $60,000,000.

Bills Taxed—The Federal Electricity Commission, one of the most active and efficient of government agencies, is charged with planning, building, and running electric plants. It gets its funds from annual federal appropriations and from a 10% tax on electric bills. From the second source, it will receive about $2,200,000 in 1944.

The $60,000,000 project will involve expenditures of about half that sum for imported equipment, most of which will come from the United States.

Seeking Priorities—In pressing for priorities on initial requests for machinery, Mexico is emphasizing (1) the importance of these orders to U. S. business during the transition period and (2) the demand which electrification of Mexico will create for U. S. household and industrial electrical appliances.

In addition to an estimated $32,000,000 to be spent for Mexican labor and local supplies, further expenditures will be allocated as follows:

Hydroelectric plants	$11,000,000
Steam-electric plants	15,200,000
Diesel-electric plants	2,200,000

Up 10% in 1944—The annual volume of imports averages $3,000,000, but wartime difficulties in obtaining priorities may boost this figure for the first few years after the war. The 1944 program of the commission, now under way, will increase the electrical production capacity of the country by 10% over 1943.

This work, in the order in which it will be completed, includes:

(1) A 31,000-kw. unit of the Ixtapantongo hydroelectric plant, 70 mi. west of Mexico City, second of three such units.

(2) A 1,100-kw. unit of the Zumpimito plant near Uruapan, Jalisco, which is scheduled for immediate use.

(3) A 13,000-kw., $1,400,000 thermoelectric plant at Veracruz, to be in service this year.

(4) A 20,000-kw. hydroelectric plant, also in Veracruz.

(5) A 3,000-kw. plant in Tonilita, Jalisco, still in the preparatory stage, which will serve three nearby cities.

(6) A two-generator-unit plant at Torreon de la Laguna, to produce 37,000 kw.

(7) A dozen or more smaller electric plants, planned for immediate installation in smaller cities of central and western Mexico.

● **Private Power**—Private industry has also been actively expanding its activities in this field. Pioneer among these firms is the Compania Mexicana de Luz y Fuerza, S. A., formed in 1902 by British-Canadian interests. It built the Necaxa power system which still furnishes Mexico City's electric light and power. This system was modernized in 1924.

The company generates 1,150,000,000 kwh. a year and services 300,000 subscribers in the capital and six surrounding states. It is expanding the capacity of its Nonoalco plant by 35,000 kw.

Planned power expansion for Ixtapantongo—a suburb of Mexico City—dwarfs the other projects now under way. Equipment for Ixtapantongo is on order in the U. S., and long-range government plans, closely linked to increased irrigation, involve even more dramatic future power developments.

All Set for a Spree

Brazil has a backlog of orders waiting to be filled, and U.S. will have inside track when normal trade resumes.

SAO PAULO—Brazilian businessmen with plenty of dollars in their jeans are looking forward to a buying splurge in the United States which is due to eclipse the currently high volume of Brazil-U. S. trade.

● **Economists Agree**—Local economists indorse this view. They expect Britain, America's chief rival for Brazilian business, to be primarily concerned with domestic rehabilitation, production for nearby European industry, and supplying Empire needs, despite London's plans to earmark a percentage of production for old customers.

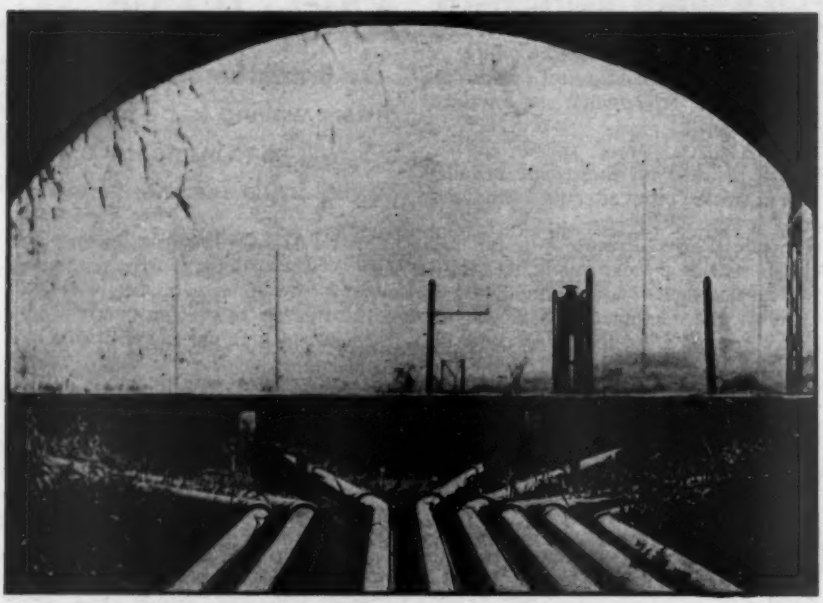
Also, whatever Britain and other countries of Europe—mainly the neutral states unscathed by war—can ship to Brazil will make only a small dent in that country's postwar needs. The backlog of replacement and repair needs, plus substantial requirements for expansion, are sizable enough to require creation in Brazil of a central agency to put priority tags on foreign equipment purchases.

● **Tax Loophole**—Earlier this year, excess-profits tax legislation was revised to permit industry (and later co-ops) to escape the tax if twice the value of the tax was invested in special equipment certificates to be applied against foreign orders for new equipment (BW—Mar.4'44,p118).

This will create a big order backlog that Brazil will be waving before the eyes of American exporters long before all trade controls are gone, and before domestic U. S. demand has been satisfied.

● **Eyes Postwar Purchases**—Brazil has accumulated more than $750,000,000 in gold and foreign exchange (mostly dollars) through the wartime sale of raw materials to the U. S. and other warring nations. Brazil has welcomed reports that the U. S. will build security stockpiles of critical materials, after the war; for Brazil hopes to get a slice of this business to buck up its normally adverse trade balance.

The kind of equipment needed for the exploitation of resources, including water power and expansion of several basic industries, will inevitably come from the U. S. The kind of financial collaboration which has characterized development of Brazil's Volta Redonda steel plant, the National Motor Factory, and the Rio Doce iron mining concern,



BOMBPROOF VOICE

Through the mouth of a secret cave in Chungking, coaxial cables (above) start the voice of beleaguered China on its way around the world. Despite determined Japanese efforts to bomb it into silence, radio station XGOY remains on the air. Reason for its immunity is that the Marconi-built transmitter (left) and its own power plant are deep underground, while aerials are effectively camouflaged. Staffed by Chinese radio technicians, this station is under the direction of Chungking University's Prof. Feng Chien who was trained in the U. S. by General Electric Co. XGOY programs are beamed to America, Burma, Russia, Holland, Spain, and Japan.

will be sought for after the armistice.

• **Imports From U. S. Rise**—The war has afforded the U. S. a unique opportunity to build goodwill and new markets for American products in Brazil. Imports of U. S. goods last year were valued at more than $220,000,000—50% of the total, and three times above 1938. In the first few months of this year, with trade loosening up, the U. S. share was 58%.

The war has played havoc with Brazil's transport system, and this will certainly be emphasized in future orders abroad.

• **Power Equipment Needed**—Already, Canadian-owned Brazilian Traction, which operates Rio and Sao Paulo electric power and tramways, is planning to boost the capacity of the Rio supply station; and government plans for extending power facilities on the lines of the British grid system will entail vastly increased imports of electric dynamos, generators, meters, and cables. Prewar imports of this category of manufactures exceeded $20,000,000 yearly.

Brazil's merchant marine lost many vessels to the submarines. Antiquated vessels normally carry more than 2,000,000 tons of goods in coastwise trade. Brazil will need many new ships after the war, and has already ordered eight 4,500-ton coasting vessels from Canadian Vickers (BW—Jun.24'44,p112). Inland transport will be emphasized in the future, and for such rivers as the Sao Francisco (BW—Aug.5'44,p112) and Amazon, due for systematic development, the government is seeking U. S. war-built landing barges.

• **Market for Aircraft**—In addition, Brazil's airways—operating at peak level—have been waiting for new equipment with which to take over the network of new routes now chiefly flown by military planes. Prewar imports of air equipment ran to $5,000,000 a year.

Brazilian railroads have been pushed ahead during the war because of the inadequacy of coastwise transport but despite completion of new rail-producing facilities, are still largely dependent upon foreign supplies. The prewar annual import of $18,000,000 of railway equipment is sure to be boosted when the war ends.

• **To Mechanize Farms**—The Minister of Agriculture announced this week a comprehensive plan for the mechanization of Brazilian agriculture which will call for imports of 100,000 tractors and other machinery from the U. S.

MORE TRUCKS FOR RUSSIA

Russia's giant industrial zone in the Urals, has been expanded by the opening of a farm truck factory at Miass. The area already has big tank, tractor, and automobile plants.

Farm trucks came into production with the completion of the assembly line in July. The model being manufactured is the familiar prewar three-ton ZIS-5 which has been used particularly on farms and in short city hauls.

By the time the assembly conveyor was installed, the Miass plant had accumulated a reserve of 41,000 engines and more than 60,000 gear boxes. Nearby suppliers had turned out other equipment. Scheduling of annual output, however, is dependent upon finding subcontractors not busy on war contracts. Successful accomplishment of this end will result in immediate work to expand the Miass plant facilities.

Before the war Soviet truck production amounted to only 200,000 units a year. The Miass plant will later be adapted to production of trucks and tractors to operate on wood and charcoal fuels. Under the third Five-Year Plan, interrupted by war, production of gas-generator units was scheduled at 110,000 a year.

ARCTIC PARADOX

The northernmost city on the North American continent—Fairbanks, Alaska—is out of ice, but it won't be for long.

Fairbanks' ice is supplied by nature. In the winter and early spring hundreds of tons of natural ice are cut and stored for summer use by householders and the

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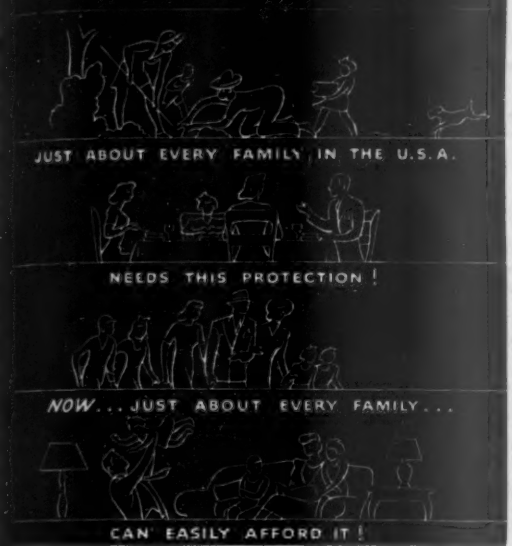

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Timely warning to housewives!

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PFAUDLER

ENGINEERS AND FABRICATORS OF CORROSION RESISTANT PROCESS EQUIPMENT

many Fairbanks bars. But this year M. C. Smith, who supplies the entire city, didn't anticipate the tremendous influx of war workers, and his supply of ice was exhausted before the coming of the freezing season.

Cocktails and soft drinks are being served at room temperature, and bartenders and their customers are anxiously awaiting the time when the glasses will tinkle again.

CANADA

Issue Sidetracked

Canada's finance minister succeeds in delaying showdown on co-op tax exemption, but action welds tax revisionists.

OTTAWA—When Finance Minister J. L. Ilsley decided last week to turn over to a commission the question of whether cooperative business organizations should continue to be exempt from business income taxes, he hoped to shelve this politically delicate issue until after the coming federal election.

• **Revision Demanded**—Instead, the move served to consolidate the energy of those who are demanding early revision of the federal tax structure in order to remove other alleged discriminations.

Ilsley is being told that the rapid growth of the cooperative movement and the steady invasion of the business field by federal and provincial governments are threatening private enterprise with extinction unless tax discriminations are ended or their impact modified.

• **Five-Point Program**—Business is asking that five features of the tax system be reviewed on the grounds that they interfere with private business incentives:

(1) Exemption of cooperatives from business income tax.

(2) Exemption of public-owned enterprises. (The Ontario Hydro Electric Power Commission has been held up as an example.)

(3) "Double taxation" of earnings of corporations through business income taxes on profits and personal income tax on dividends

(4) The proposal of the new Saskatchewan Cooperative Commonwealth Federation government to impose a special tax on income derived from exploitation of natural resources by private interests.

(5) The double impact of income tax and inheritance tax on the capital and earnings of small business.

• **Showdown Deferred**—The question of cooperative exemption was due to

A few months after Pearl Harbor, the Canada-U. S. Permanent Joint Board on Defense approved a U. S. Army Air Force proposal to build airfields on the supply routes to Britain and the Soviet Union. U. S. construction cost $90,683,000 (American). Canada spent another $31,600,000 with the understanding that it would be reimbursed by the U. S. Instead, now, Canada has resolved that no other country shall own vital air facilities in the Dominion, and will pay the U. S. $76,811,500—the estimated value of the 40 U. S.-built airfields and the telephone line from Edmonton to the Alaska border. Thus, Canada's investment in these routes—of prime war and potential peacetime value—amounts to $110,000,000.

ne up early next year in an Ex-equer Court test case of the right western wheat pools to freedom from ation on their surplus earnings W–Oct.21'44,p114).

Ilsley has sidetracked this case by oving to refer the whole co-op tax uation to a commission.

Business hopes that Ottawa's interest postwar revenue will force the issue mediately after the federal election. ey claim that tax exemption of co-ops sts the treasury $100,000,000 a year.

Tax Incentive—An alternative oposal, by a special postwar recon-uction committee headed by Dr. F. nl James of McGill University, is noval of business income taxes from ivate corporations as an incentive to dustrial expansion. But this tax gives ttawa $300,000,000 a year, a tidy sum ward the postwar treasury needs which estimated to be in the neighborhood $1,500,000,000.

If the Saskatchewan provincial gov-nment carries through its plan to tax come from natural resource develop-nt, Ottawa will be asked to veto it. is argued that the proposed tax is tamount to repudiation of grants of velopment rights for timber, minerals, d water resources. Federal authori-s might claim a right to intervene smuch as these resources were only ently put under provincial control.

MPIRE AIR PLANS

OTTAWA—The British Common-alth air conversations in Montreal last ek were shrouded in secrecy. Only at ir conclusion was a communique ued dispelling reports that Canada d stymied the parley with refusal to go ng with plans for an Empire air vice.

Gist of the communique:

(1) Representatives agreed upon the sirability of establishing an interna-nal air authority through adoption of international air convention.

(2) There was agreement on the de-ability of establishing air services con-cting Commonwealth countries, and Commonwealth Air Transport Coun-

(3) Charts of proposed routes were wn and approved, and technical com-ttees on routes, methods of operation, ound facilities, air navigation, radio ilities, meteorology, airworthiness, ipment, standard practices, and ndardization submitted reports which re approved and referred to individ-governments for approval.

(4) Nothing determined at Montreal any way impairs the freedom of ion of the respective governments at United Nations conference in Chi-o this week.

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THE MARKETS

(FINANCE SECTION—PAGE 66)

Prime Minister Churchill's prediction that the Nazis may not be overcome before next summer, and the Japs perhaps not until 1946 (page 112), started something of a flurry in aircraft, steel, and some of the other so-called war stocks early this week. (A number of aircraft stocks have been particularly strong recently.)

• **Trading Dull**—Except for this, and the creeping up to new highs by some normally inactive preferred issues, however, recent daily trading sessions on the New York Stock Exchange have continued to be pretty dull and colorless affairs.

Stock market prices, as a whole, have yet to show any real recovery from the lower levels reached during the short-lived but sharp selling spell which occurred early last week.

• **Political Reaction**—Last week's price weakness is now mainly attributed (by many of the brokers who had previously been quite bullish in their near-term predictions) to liquidation inspired by a combination of fears concerning a Republican defeat in the coming election and selling advices sent out almost simultaneously by several advisory services, rather than to any uneasiness about the market's basic position.

The less optimistic market soothsayers agree that there may have been an element of artificiality about the abrupt decline that occurred.

Nevertheless, they don't think it was a particularly healthy sign that last week's selling only got under way after the market had proved for the third time in recent weeks that it just couldn't muster the strength necessary to break through the resistance levels so long barring the testing of last summer's highs.

• **Flurry in Low Shares**—Neither does this group care for the drift of traders toward the low-priced ultraspeculative shares evidenced last week when eight of the 13 most active Big Board issues turned out to be stocks selling at prices of $7.50 down to under $1.

Election returns may shake the market out of its recent rut one way or the other, according to the interpretation given results by the mass of investors.

However, few market students think that any change in trend that may occur for that reason will represent anything of a permanent or semipermanent nature.

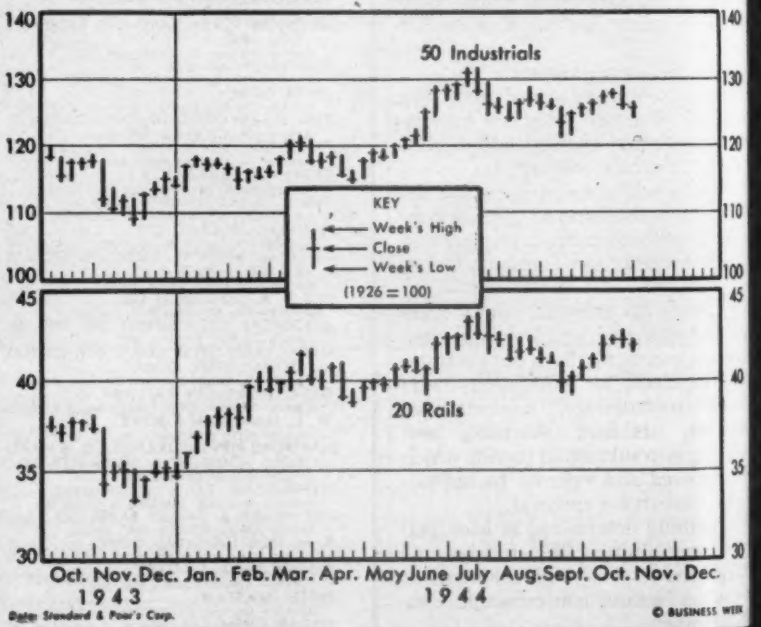
• **Postwar Tax Relief?**—Wall Street's more careful analysts, in fact, actually expect no real clarification of the uncertainties causing recent indecisive markets until the time finally arrives when investors and traders think they can visualize fairly correctly the amount of postwar tax relief likely, the depth of the reconversion slump in industrial activity, and the many other equally important questions that still remain to be answered.

Security Price Averages

	This Week	Week Ago	Month Ago	Year Ago
Stocks				
Industrial	125.8	126.1	126.3	117.8
Railroad	42.0	42.3	41.2	37.4
Utility	55.5	56.0	55.0	51.5
Bonds				
Industrial	119.8	119.5	119.7	118.7
Railroad	110.3	110.2	107.8	99.6
Utility	117.0	117.0	117.2	115.2

Data: Standard & Poor's Corp.

COMMON STOCKS—A WEEKLY RECORD



HE TRADING POST

nd the Legend

hen the history of this war is writ- he name of Bernard M. Baruch certain to appear prominently in l chapters, just as it did in the y of American participation in the World War.

uch, who gained his first reputa- as a Wall Street trader, was chair- of the War Industries Board in Although he has not held official nment posts during the current his influence has been felt in many s and his name has been kept e the public through his behind- enes activities and his participa- in the special studies on rubber rvation, manpower mobilization, industrial reconversion.

uch never has been a public figure e accepted sense. He is not an r. He has sought no office. Be- his views on the conduct of the nd on public and economic affairs ly have been presented over the con table or at his park bench c" in Washington, the public never ad a real opportunity to get ac- ted with him. The result is a d, or rather a series of legends.

* * *

rter Field, for 30 years a Washing- correspondent, long has been in a ion to observe Baruch, the man, Baruch, the influence. Now he to get behind the legend and to l just what has made it possible for ch, a speculator during the early f this century, to grow into one of ation's Elder Statesmen.

ernard Baruch, Park Bench States- " recently published by Whittlesey e, is a biography in which the ds of Baruch, the man with the s touch; Baruch, the Wall Street r; Baruch, the southern Demo- Baruch, the prophet; and Baruch, tubborn man, are all recalled.

cidents in the early career of this whose mother wanted him to be tor, make interesting reading, but reatest value of the book, it seems e, lies in its revelation of the funda- tals that have guided his thoughts actions, whether it be as a prophet eparedness or in making millions.

uch has been condemned in some s because he made some of his ons selling "short"; but, as Field s out, he was but applying the amentals he had learned after go- roke several times during his early r. Baruch freely admitted that in one day in 1916 he had made half a million dollars on short sales. He cashed in on the 1901 crash. But the public does not know that he also went into his safe-deposit boxes for $2,000,000 in currency to help meet payrolls and to support banks that were crippled by extended runs during the crisis of 1907.

Field boils down, in one chapter of his book, the Baruch formula for making money in the stock market. There are 16 rules, but perhaps the most important is "Don't forget that 2 and 2 make 4. Get the facts and be sure they are facts, not rumors, not opinions."

The rule was drawn for the stock market, but Baruch worked it equally hard elsewhere. In the early days of the New Deal, it was apparent that Baruch and President Roosevelt did not hit it off as well as Baruch and Wilson had, and a friend asked: "Why are you so stubborn when you see the President?"

"How can I be otherwise?" he replied. "I say 2 and 2 makes 4. I am very stubborn about that. Am I supposed to yield, for the sake of being pleasant, and say that maybe they could make 6, if the government insisted?"

* * *

Baruch's formula has not always set well with the politicians, but there is no record of his having altered it in the interest of expedience, either in the financial or political field.

Field's book reviews Baruch's one-man crusade, after the 1920 election, to have the United States always ready for war through industrial preparedness and through never-ending study of new developments by our military and naval chiefs; his argument before the War Policies Commission in 1931 for ceilings on all prices in the event of war; his appeals in 1934 for stock-piling of strategic materials.

Now it is too late to take advantage of his recommendations on how to prepare the country for war. But it is not too late to take full advantage of the warning in the Baruch-Hancock reconversion report that quick, fair, and final settlement should be made of terminated war contracts and that settlement "should not be used for punishment or reward, for making better or worse the position of manufacturers, workers or the public."

Others undoubtedly will write, in years to come, of this many-sided man, but Field has done well to lay his emphasis on Baruch's abiding respect for facts and for straightforward intellectual integrity in using them. W.C.

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THE TREND

AN ELECTION-EVE CAMPAIGN

On the eve of an election, after weeks of campaign oratory, thoughtful management men must sometimes wonder whether the greatest triumph is not likely to be that chalked up for two principles that are supposed to be outlawed by all codes of business practice: the principle of expediency and the principle that the end justifies the means.

• **We may feel that these principles** have been followed less in this campaign than in others or that they have guided our side less than the other side. However, we know that, to a greater or less degree, they rule every campaign and at some time sway almost every candidate. No man with any knowledge of public affairs, any sophistication, or any vestige of objectivity could fail to remember their intrusion into the very speeches that he had considered most telling.

This is something which we think we understand and for which we normally discount. It is something we accept as we accept the conventions of the theater, for example—or, perhaps one might more aptly say, the conventions of the courtroom. Argument from expediency, from interests, and from a conviction that victory justifies manipulation of the evidence to the best partisan advantage had become a convention of politics long before Marc Antony delivered Caesar's funeral oration. Those of us who are smart have so long recognized it for what it is that we fail to recognize it for what it does—unless we become wearied by a surfeit of it, as can happen on an election eve.

• **Among the things it does** is to cause us to discount politicians, sometimes without realizing that we do. And from that grows a tendency to discount the whole art of politics and the function of the politician in a democracy.

On an election eve when conventionalized political oratory ripens to its highest flavor under the ministrations of candidates' boards of strategy and in the eagerness of candidates themselves, it becomes easy to see how, in Europe, such discounting has played into the hands of dictators. It was never hard for the leaders of totalitarian regimes, themselves arch-apostles of expediency and of the principle that the end justifies the means, to thrust their fists through the tolerated convention and demonstrate what everybody knew—that the politicians frequently "cooked" the record, made promises that could not be taken too seriously, defined issues in devious ways, and shaded facts in the interests of victory. Even the politicians' followers could see that; they always had; that was the way the game was played.

The oratorical convention of politics also plays its part in the rift between business and government. The w informed businessman knows very well how to disco political platforms and political promises and how distinguish between facts and "political facts"; oc sionally he has gained his knowledge from help politicians to smooth over the distinction. His awaren has had an important role in the effort he has made establish an almost antonymous relation between terms "politician" and "businessman." It has contr uted to much that is illusion in his assumption t what government needs is the exercise of precisely attitudes and skills that characterize men in business.

Tolerance of the convention of political oratory helped to make him intolerant of the legitimate politi attitudes and the useful political skills that are need in the very different business of democratic governme If he himself ever resorts to what is expedient when addresses his customers, his suppliers, or his employe or if he justifies his statements to selfish ends, he refle that he doesn't do it in the name of democracy.

• **But if there is a special tendency** to take a holier-th thou attitude toward politicians as we come to the max of another quadrennial round of presidential ca paign oratory, one should stop to consider how the co vention tolerated in campaign oratory has been est lished in the name of democracy. If it is followed by t politicians, it has been made and condoned by all us. It belongs to a theater for which we drew up t rules. We get what we asked for and we created o politicians in our own image. They truly represent whether their oratorical deviations from reality win the election or defeat. And democracy may be defeated any case.

• **This is well worth reflection** in an age which has se the relatively innocent conventions of political orato developed into ruthless weapons of propaganda by tho who obey no rule but that of expediency, who follow principle except that the end justifies the means, a whose ends are corrupted by the means they emplo It is particularly well worth reflection at a time wh the rule and the principle may find justification as wea ons of a war from which the world must, sometim recover its ancient habits of peacetime decency.

And if an election-eve weariness seems to overstre the relatively mild advantage that 1944 political ca paigners have taken of the convention of campaign or tory, we might also reflect that, relatively, we have nev had a greater need of the unconventional truth.

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